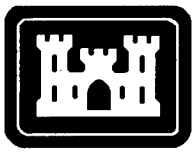

Contract No. DACW29-97-D-0018
Delivery Order 0023

PHASE I CULTURAL RESOURCES SURVEY AND ARCHEOLOGICAL INVENTORY OF THE BAYOU SORREL LOCK REPLACEMENT PROJECT, IBERVILLE PARISH, LOUISIANA

FINAL REPORT
APRIL 2001

PREPARED FOR:

U.S. Army Corps of Engineers
New Orleans District
P.O. Box 60267
New Orleans, Louisiana 70160-0267

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	April 2001	Final Report September - October 1999

4. TITLE AND SUBTITLE
Phase I Cultural Resources Survey and Archeological Inventory of the Bayou Sorrel Lock Replacement Project, Iberville Parish, Louisiana

5. FUNDING NUMBERS

6. AUTHORS
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8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
U.S. Army Corps of Engineers, New Orleans District
P.O. Box 60267
New Orleans, LA 70160-0267

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVALIABILITY STATEMENT
Unclassified/Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This document presents the results of the Phase I cultural resources survey and archeological inventory of the proposed Bayou Sorrel Lock Replacement Project (Contract No. DACW29-97-D-0018) in Iberville Parish, Louisiana. This investigation was completed on behalf of U.S. Army Corps of Engineers, New Orleans District, by R. Christopher Goodwin & Associates, Inc., in September and October of 1999. As part of the cultural resources component associated with this undertaking, an archeological inventory was authorized to assess three separate tracts within the Area of Potential Effect; these totaled 144.4 ha (356.8 ac) in size. Each of the three project items was assessed as having a high probability for containing intact cultural deposits by archeologists on staff with the U.S. Army Corps of Engineers, New Orleans District.

Fieldwork for this project consisted of pedestrian survey augmented by systematic shovel testing throughout the Area of Potential Effect. This investigation resulted in the identification and subsequent assessment of four standing structures (24-896, 24-897, 24-898, and 24-899). In addition, previously recorded Site 16IV23 fell within the limits of the overall Area of Potential Effect and it was revisited as part of this investigation. The site, which had been situated on a natural levee between an unnamed creek and the Lower Grand River, has been destroyed by prior borrow activities associated with the construction of the East Atchafalaya Basin Protection Levee.

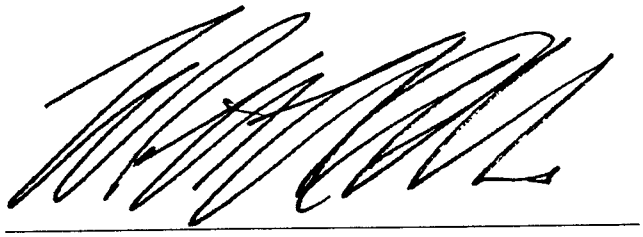
On the basis of this intensive cultural resources investigation, four standing structures and one previously recorded archeological site were identified. None of the cultural resources identified within the Area of Potential Effect associated with the Bayou Sorrel Lock Replacement Project possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of these three project items is recommended.

14. SUBJECT TERMS			15. NUMBER OF PAGES
USACE	Bayou Sorrel	Iberville Parish	125
			PRICE CODE

16. SECURITY CLASSIFICATION OF REPORT	17. SECURITY CLASSIFICATION OF THIS PAGE	18. SECURITY CLASSIFICATION OF ABSTRACT	19. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	SAR

PHASE I CULTURAL RESOURCES SURVEY AND ARCHEOLOGICAL INVENTORY OF THE BAYOU SORREL LOCK REPLACEMENT PROJECT, IBERVILLE PARISH, LOUISIANA

Final Report



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April 2001

For

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CHAPTER I

INTRODUCTION

This document presents the results of Phase I cultural resources survey and archeological inventory of the proposed Bayou Sorrel Lock Replacement Project (Contract No. DACW29-97-D-0018) in Iberville Parish, Louisiana (Figure 1). This investigation was completed on behalf of U.S. Corps of Engineers, New Orleans District, by R. Christopher Goodwin & Associates, Inc., in September and October of 1999. All fieldwork was conducted in accordance with the Secretary of the Interior's "Standards and Guidelines" (48 CFR 44716-42), with the Advisory Council on Historic Preservation's handbook entitled Treatment of Archeological Properties, Louisiana's Comprehensive Archaeological Plan (Smith et. al. 1983) for conducting archaeological surveys in Louisiana and with 36 CFR Part 800.

Project Description

The U.S. Army Corps of Engineers, New Orleans District, plans to replace the extant Bayou Sorrel Lock with a new lock. In addition, modifications may be made to the existing East and West Calumet Flood Gates, the Charenton Floodgate, and the Berwick and Bayou Boeuf Locks. As part of the cultural resources component analyzed for this undertaking, an archeological inventory was authorized to assess three separate tracts; these totaled 144.4 ha (356.8 ac) in size. Each of the three project items was assessed as having a high probability for containing intact cultural deposits by archeologists on staff with the U.S. Army Corps of Engineers, New Orleans District.

The overall project area is located in the Atchafalaya River Basin, a landform characterized by fairly level topography that varies in elevation from only 1.5 to 3.0 m (5 to 10 ft) NGVD. The three survey items, which are situated to either side of Bayou Sorrel and west of the East Intracoastal Waterway, can be characterized as narrow, natural levee and floodplain deposits associated with the Holocene. Geological data indicate that natural levee deposits are underlain by backswamp deposits and that these deposits date from late in the Holocene epoch.

Area 1

Area 1 was located approximately 1.8 km (1.13 mi) southeast of the Town of Bayou Sorrel, Louisiana; bordered by the Intracoastal Waterway to the east and the East Atchafalaya Basin Protection Levee to the west (Figure 2). The project item was located in the E ½, of the NE ¼, of the NE ¼ and the NE ¼, of the SE ¼, of the NE ¼ of Section 3, of Township 11S, Range 11E and in the center of the SE ¼, of the SE ¼ of Section 34, of Township 10S, Range 11E. This rectangular tract of land encompassed an area that measured approximately 29 ha (72 ac) in size. Area 1 was located within a fairly level floodplain that can be characterized as a wooded lot with a small, rural settlement situated at its southern end. Fieldwork at this locale consisted of pedestrian reconnaissance augmented by systematic subsurface testing throughout this portion of the Area of Potential Effect. Furthermore, visual examination of Area 1 identified four standing structures, older than 50 years in age; each was positioned at the southern end of the project area (24-896, 24-897, 24-898, and 24-899). These four standing structures did not possess the qualities of significance as defined by the National

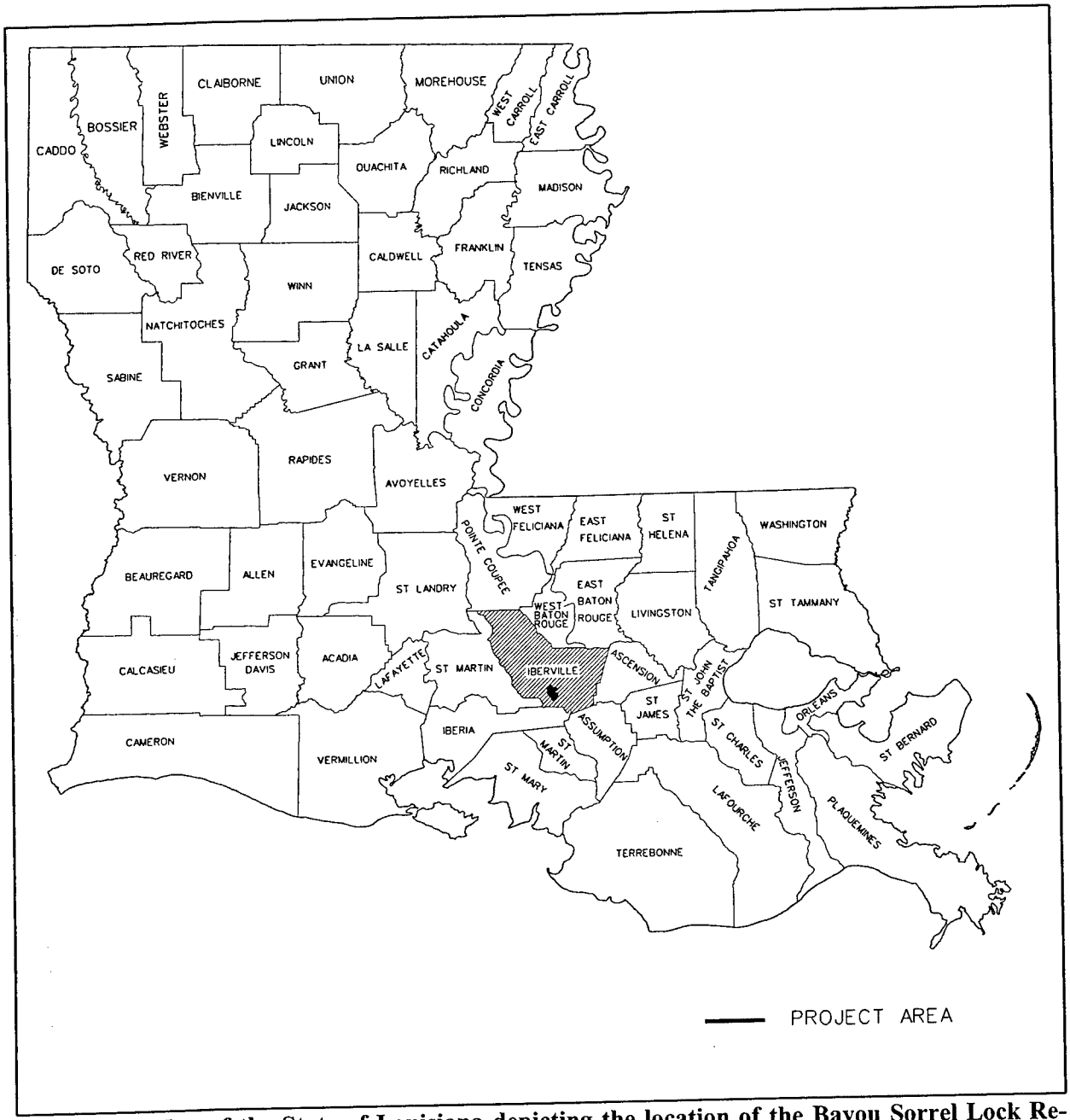

Figure 1. Map of the State of Louisiana depicting the location of the Bayou Sorrel Lock Replacement Project within Iberville Parish, Louisiana.

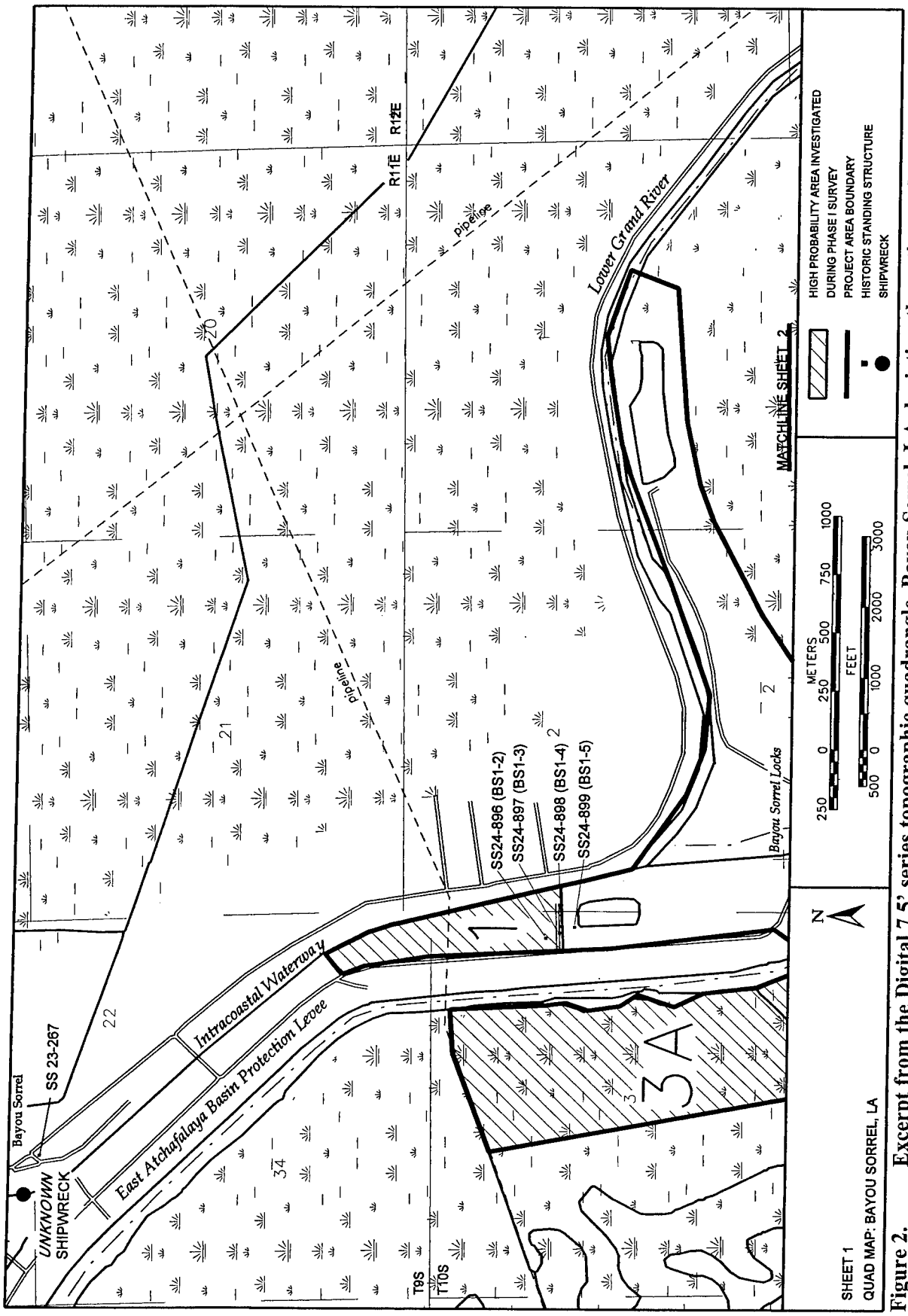

Figure 2. Excerpt from the Digital 7.5' series topographic quadrangle, Bayou Sorrel, LA depicting the entire study area, the survey Sheet 1 areas, previously recorded archeological sites and standing structures, and all cultural resources identified during survey.

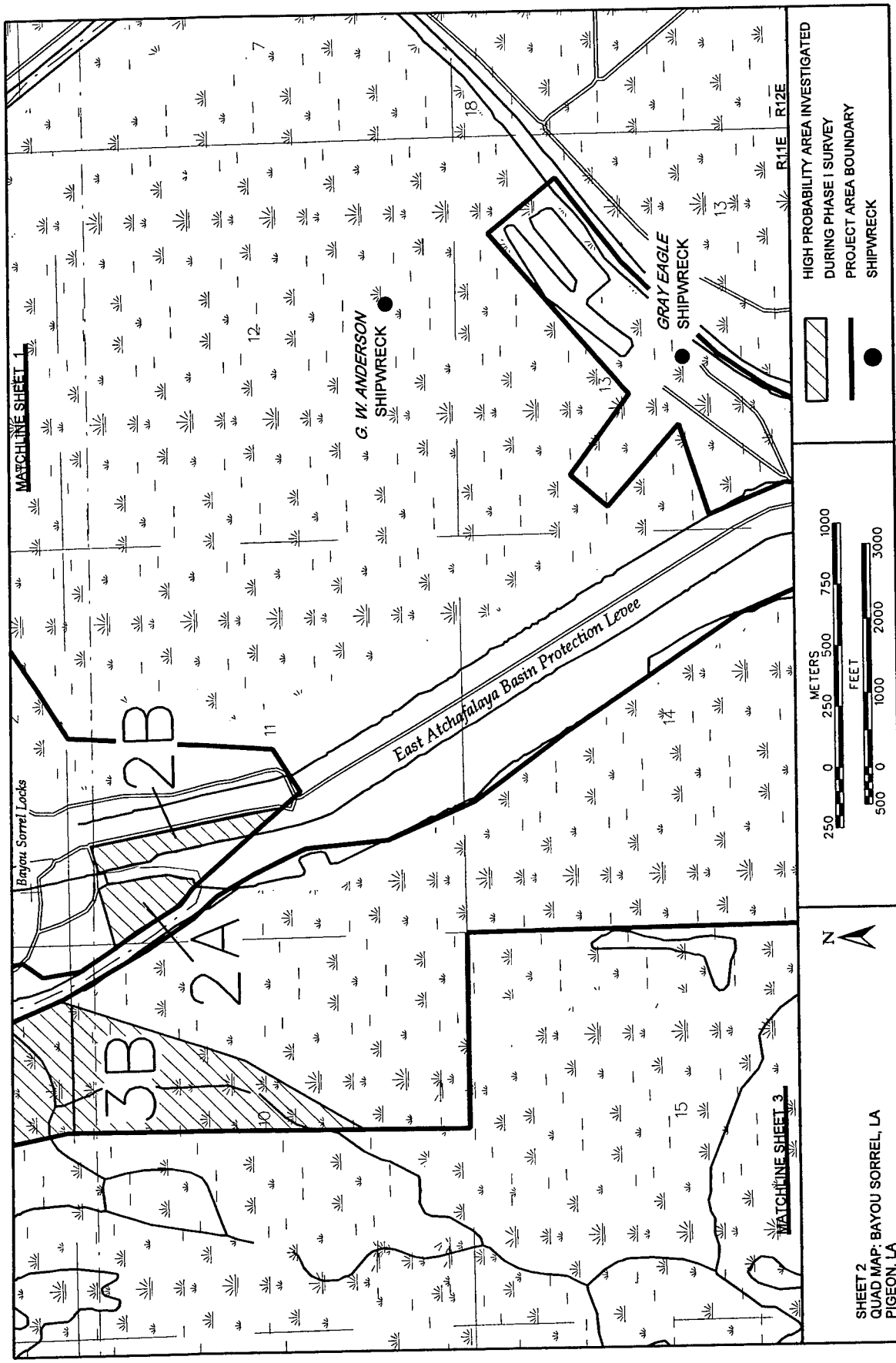

Figure 2. Sheet 2 **Excerpts from the Digital 7.5' series topographic quadrangles, Bayou Sorrel, LA and Pigeon, LA, depicting the entire study area, the survey areas, previously recorded archeological sites and standing structures, and all cultural resources identified during survey.**

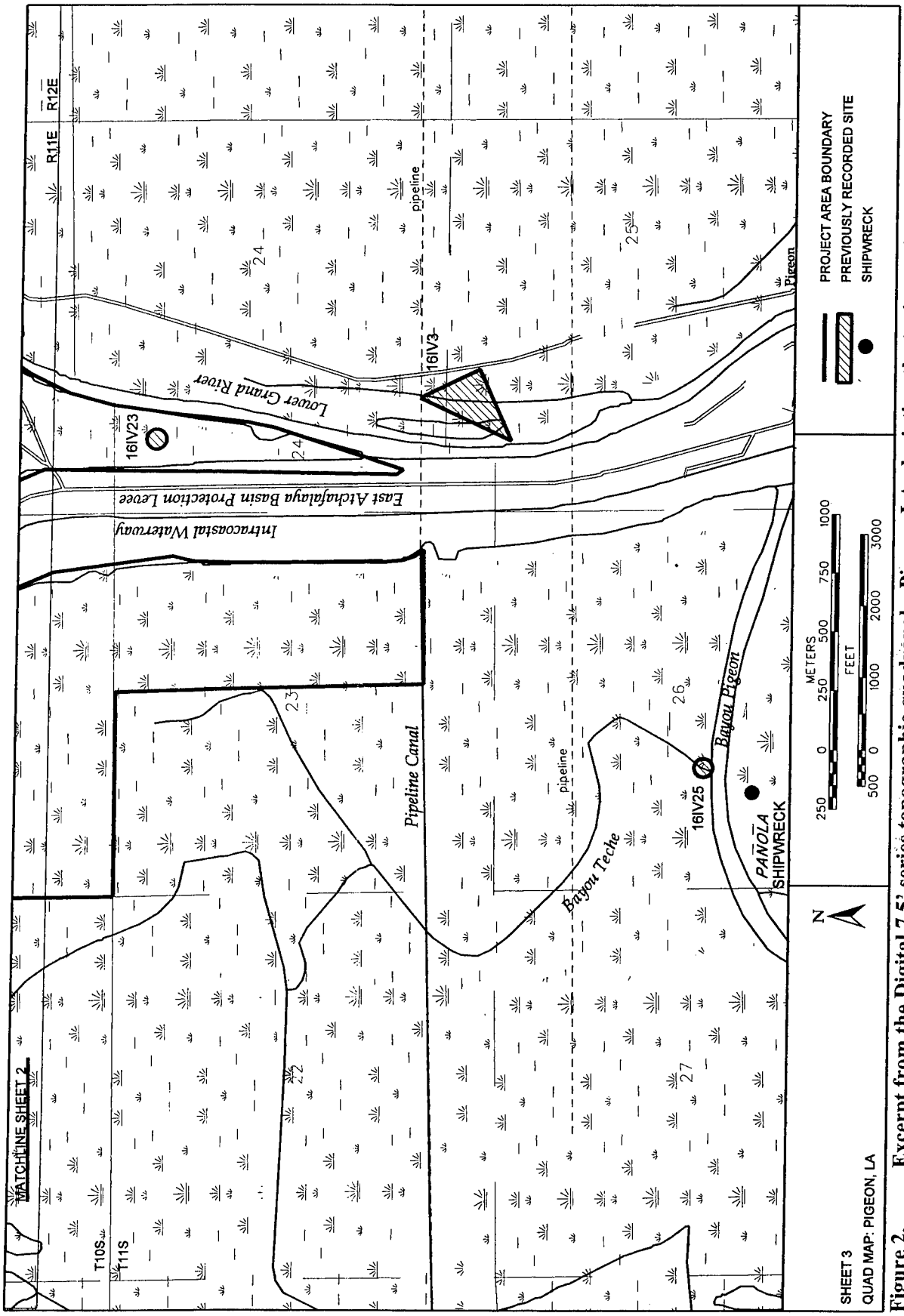

Figure 2. Sheet 3 Excerpt from the Digital 7.5' series topographic quadrangle, Pigeon, LA, depicting the entire study area, the survey areas, previously recorded archeological sites and standing structures, and all cultural resources identified during survey.

Register of Historic Places (36 CFR 60.4 [a-d]) criteria for evaluation. No additional testing of Area 1 is recommended.

Area 2

Area 2 was located directly south of the Bayou Sorrel Lock and was positioned on either side of the Intracoastal Waterway (Figure 2). In total, this area covered 9.7 ha (24 ac) of land that has been impacted by construction, dredging and spoil activities. To facilitate survey, this project item was subdivided into two small, more manageable areas (Area 2A and Area 2B), which are discussed below. No cultural resources or standing structures were identified during survey of the Area 2 project item. No additional testing of Area 2 is recommended.

Area 2A was located directly south of the Bayou Sorrel Lock, and it was situated on the peninsula between the Intracoastal Waterway and the Bayou Sorrel Lock. This project item was located in the NW ¼, of the NW ¼ of Section 11, of Township 11S, Range 11E. This triangular tract of land measured approximately 4.9 ha (12.2 ac) in size. The topography of the area was fairly level and the parcel itself was wooded. A variety of cypress, maple, pine and sycamore trees were noted during survey. Fieldwork at this locale consisted of both pedestrian reconnaissance and systematic subsurface testing.

Area 2B was located directly south of the Bayou Sorrel Lock; it was situated on narrow strip of land bounded on the west by the entrance to the Bayou Sorrel Lock, and to the east by the East Atchafalaya Basin Protection Levee. The area was located in the W ½, of the E ½, of the NW ¼ and the NE ¼, of the NW ¼, of the NE ¼, of the SW ¼ of Section 11, of Township 11S, Range 11E. This rectangular tract of land encompassed an area that measured approximately 4.8 ha (11.9 ac) in size. This portion of the Area 2 project item consisted primarily of an open, grassy lot situated on the batture side of the levee; the remaining portions of the project item were sparsely wooded. Fieldwork consisted of pedestrian reconnaissance augmented by systematic subsurface shovel testing.

Area 3

The Area 3 project item was located within the Atchafalaya Basin Floodway, approximately 1.7 km (1.05 mi) southeast of the Town of Bayou Sorrel, Louisiana (Figure 2). In total, this area covered 106 ha (261 ac) of land that has been impacted by construction, dredging and spoil disposal. To facilitate survey, this project item also was subdivided into two smaller and more manageable areas (Area 3A and Area 3B). No cultural resources or standing structures were identified during survey of the Area 3 project item. No additional testing of Area 3 is recommended.

Area 3A was located within the Atchafalaya Basin Floodway, approximately 1.7 km (1.05 mi) southeast of the Town of Bayou Sorrel, Louisiana. The area was located in the E ½, of the E ½, of the NW ¼, and the W ½, of the NE ¼, and the W ½, of the SE ¼, and the E ½, of the NE ¼, of the SW ¼, and the W ½, of the SE ¼, of the SE ¼ of Section 3, of Township 11S, Range 11E. It was bounded by the Intracoastal Waterway to the east and an extant pipeline canal to the north. This rectangular tract of land encompassed an area that measured approximately 80 ha (198 ac) in size. Area 3A was described as seasonal floodplain and it was characterized by wetland vegetation, which included cypress, live oak, willow and palmettos. Fieldwork at this locale consisted of systematic shovel testing augmented by pedestrian reconnaissance. In addition, judgmental auger testing was conducted adjacent to a dry drainage bed that crossed along the southern edge of the project area.

Area 3B was located immediately opposite the Bayou Sorrel Lock, and west of the Intracoastal Waterway. The area was located in the W ½, of the NE ¼, and the NW ¼, of the NW ¼, of the SE ¼ of Section 10, of Township 11S, Range 11E. This project item adjoined the southern boundary of Area 3A, abutted a portion of an abandoned levee near its southeastern edge and it was bisected by a seasonally dry drainage bed. This triangular tract of land encompassed an area that measured approximately 25.5 ha (63 ac) in size. This seasonal floodplain was char-

acterized by a variety of wetland vegetation that included cypress, scrub brush and palmetto. Fieldwork conducted at this locale included both systematic shovel testing augmented by pedestrian reconnaissance.

Project Design and Field Methods

The Phase I cultural resource survey and archeological inventory of three individual areas was designed to identify, record, and assess the distribution of all cultural resources located within the Areas of Potential Effect. As a result, the entire length and width of each proposed project item was surveyed for cultural resources. Fieldwork included intensive pedestrian reconnaissance augmented by systematic subsurface testing throughout the Areas of Potential Effect. Finally, an architectural review was completed in an effort to identify and record all standing structures 50 years in age or older within or adjacent to the proposed project corridors.

A three-step approach was utilized to complete this survey and inventory of the various project items. The approach consisted of (1) cartographic, archival, and archeological review of data relevant to the proposed undertaking; (2) pedestrian survey and systematic shovel testing throughout the Areas of Potential Effect; and (3) recordation and preliminary assessment of all newly discovered cultural resources. Subsequent to the cartographic, archival, and archeological review process, each proposed project item was stratified into areas deemed to possess a high probability for containing intact cultural deposits. In these high probability areas, the proposed project items were subjected to intensive pedestrian survey and shovel testing at 20 m (65.6 ft) intervals along parallel survey transects and spaced 20 m (65.6 ft) apart. In addition, a series of judgmentally placed auger tests were excavated adjacent to a dry drainage bed situated within Area 3 project item.

In addition, each survey crew was instructed to record all historic period standing structures encountered during the cultural resources survey and archeological inventory of each proposed project item. Since the proposed construction project has the potential to disturb or destroy historic properties, the purpose of architectural recordation was: (1) to collect reconnaissance-level architectural survey data for each building 50 years in age or older located within the Area of Potential Effect; (2) to apply the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) to each recorded resource; and, (3) to apply the Advisory Council on Historic Preservation's Criteria of Effect to each historic property to anticipate the effects of each undertaking. Architectural investigations were undertaken in accordance with guidelines established in *National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning* (National Park Service 1995).

Results and Recommendations

Between September and October of 1999, a Phase I cultural resources survey and archeological inventory of the three Areas of Potential Effect associated with the proposed Bayou Sorrel Lock Replacement Project in Iberville Parish, Louisiana was completed. This investigation was conducted on behalf of U.S. Army Corps of Engineers, New Orleans District, by R. Christopher Goodwin & Associates, Inc. This investigation resulted in the examination of 144.4 ha (356.8 ac) of three proposed project items within the Area of Potential Effect along Bayou Sorrel and the Intracoastal Waterway. Fieldwork included pedestrian survey augmented by systematic subsurface testing throughout the examined portions of the Area of Potential Effect.

This investigation resulted in the identification of four standing structures older than 50 years in age. Standing Structures 24-896, 24-897, 24-898, and 24-899 each were classified as typical examples of early to mid-twentieth century vernacular or shotgun dwellings. Each of these buildings was identified within the currently proposed Area of Potential Effect and each may be impacted by the proposed construction activities. The four structures, however, do not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of the four standing structures is recommended.

In addition, Site 16IV23 was identified previously within the Area of Potential Effect and it was revisited as of this investigation. The site, which had been situated on a natural levee be

tween an unnamed creek and the Lower Grand River, was destroyed by borrow activities associated with the construction of the East Atchafalaya Basin Protection Levee. This site does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing is recommended.

Project Personnel

Mr. William P. Athens, M.A., served as Principal Investigator for this project and he supervised all aspects of the research. Mr. Patrick Robblee, M.A., acted as Project Manager. Ms. Kari Krause, M.S. and Ms. Angele Montana, M.A., directed the fieldwork; they were assisted by Mr. Luis Williams, B.A., Ms. Colleen Hanratty, B.A., Mr. David Crowley, B.A., Mr. Jeff Roberson, B.A., Ms. Mara Kaminowitz, B.A., Mr. James Clark, B.A., Mr. Rodger Soden, B.A., Mr. Ben Hoksbergen, B.A., Ms. Hedy Justus, B.A., Ms. Ellen Wilmer, B.A., and Ms. Heather Bowdin, B.A.

Organization of the Report

An overview of the natural setting of the proposed project corridors is presented in Chapter II, and it includes a brief description of the geology and geomorphology of the region, the floral and faunal communities characteristic of the area, and a short description of the climate of the southeastern Louisiana area. The prehistoric cultural development of the area is explored in Chapter III. The history of the area encompassing the proposed project items is chronicled in Chapter IV. A review of all previous archeological research completed in the vicinity of the proposed project items is presented in Chapter V. A review of the research design and field methods used to conduct the archeological inventory of the Area of Potential Effect is contained in Chapter VI. Chapter VII documents the results of the survey, while management recommendations for the identified cultural resources are presented in Chapter VIII. The State of Mississippi standing structure forms are presented in Appendix I.

CHAPTER II

NATURAL SETTING

This chapter presents a general overview of the physical landscape, a description of the landforms, and a discussion of the geomorphic processes that have affected the currently proposed Bayou Sorrel project area. Since this area is located in a dynamic deltaic plain setting, it is essential to understand the origin and evolution of the natural landscape in order to predict the location of and interpret the significance of the cultural remains identified during survey. Throughout the prehistoric and historic periods, the landscape has provided humans with ample opportunities, but it also has limited and constrained habitation, subsistence, and movement throughout the region. Moreover, natural processes across the landscape have been a major factor in determining if cultural remains are preserved and, if so, the likelihood that they may be detected utilizing standard archeological methods.

Despite the huge number of geological investigations completed throughout the deltaic plain over the past five to six decades, the immediate project area has been all but ignored. In his monumental investigation of the Lower Mississippi Valley, Fisk (1944) paid little attention to the features and events of the area, and in his classical discussion of the Atchafalaya River diversion (Fisk 1952), he focused to a large extent on the floodway area and not the lands adjacent to it. Several decades later, large-scale, systematic, geologic mapping of the deltaic plain largely avoided the project vicinity (May et al. 1984; Smith et al. 1986). Only basic subsurface geological data for the project area have been developed as a result of levee foundation investigations by the U.S. Army Corps of Engineers (Coleman 1966; Krinitzsky and Smith 1969). Similarly, those regional syntheses detailing the geology and chronology of the deltaic plain do not discuss the project vicinity in any detail (Autin et al. 1991; Frazier 1967; Saucier 1994).

Nonetheless, a variety of sources were utilized to describe and interpret the geomorphological setting of the project area. The information below was obtained from a review and a subsequent analysis of the available literature, including topographic maps, soils surveys, historic period maps, aerial photos, and engineering and geological surveys; no detailed geomorphological field investigations were conducted for this project.

Geographic Setting

The Bayou Sorrel project area is located in the Atchafalaya Basin of central coastal Louisiana and about 48 km (30 mi) south of Baton Rouge (Figure 3). It lies in south-central Iberville Parish both east and west (inside and outside) of the East Atchafalaya Basin Protection Levee. The project vicinity lies between the communities of Bayou Sorrel to the north, Pigeon to the south, and Choctaw to the east. The Bayou Sorrel Lock, constructed by the U.S. Army Corps of Engineers, is located on the Gulf Intracoastal Waterway and it serves to allow the passage of vessels from Lower Grand River into and out of that portion of the Intracoastal Waterway located in the Atchafalaya Basin Floodway.

When the Bayou Sorrel Lock was constructed, a segment of the Lower Grand River was isolated by an artificial cutoff channel. The current project includes the lands lying adjacent

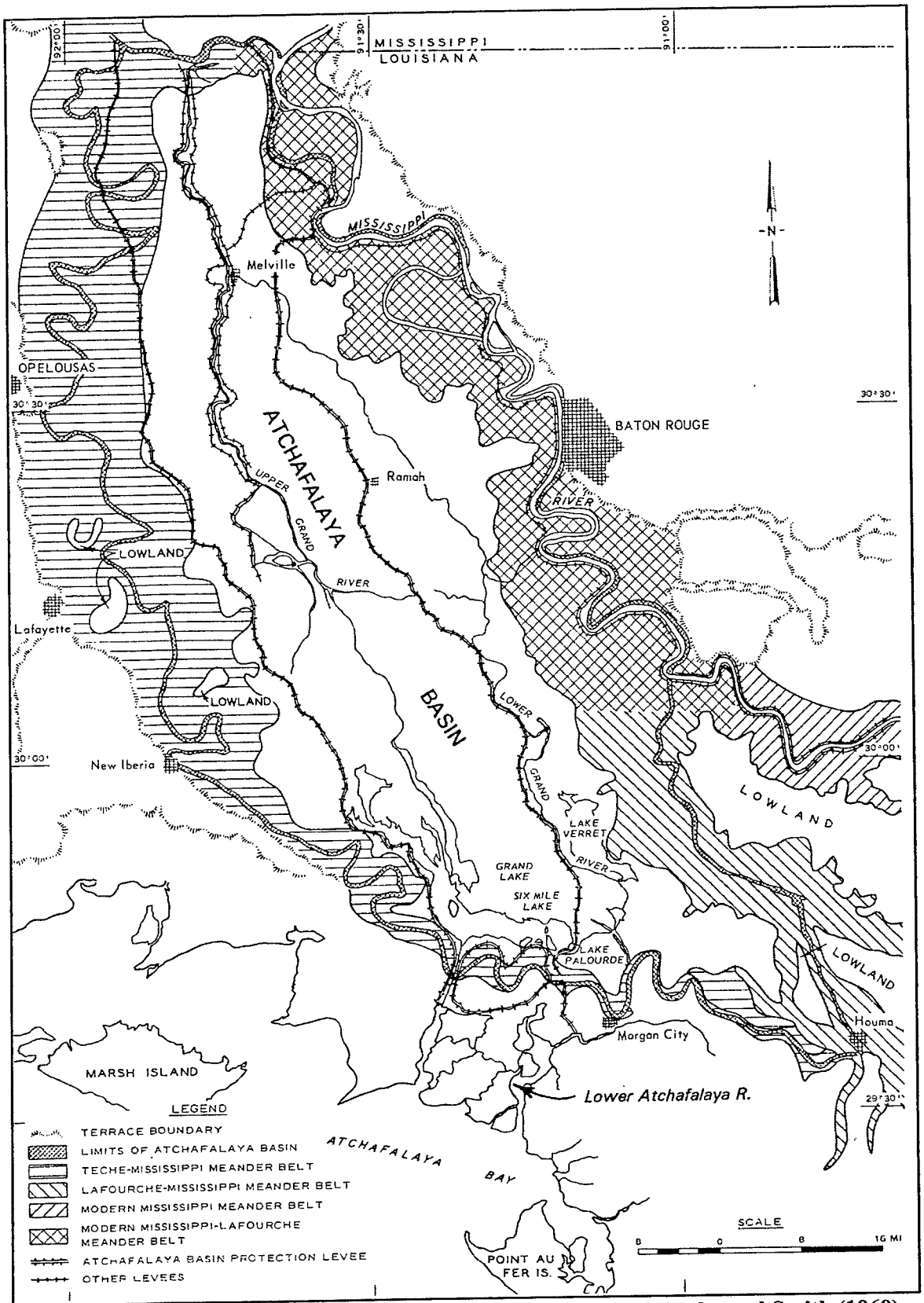

Figure 3. Physiography of the Atchafalaya Basin. From Krinitzsky and Smith (1969).

to both portions of the artificial channel and the cutoff segment.

Physiographic Setting

Physiographically, the Atchafalaya Basin lies within the Gulf segment of the Coastal Plain Province of North America. More specifically, it is a major subdivision of the Mississippi deltaic plain in the area that is transitional between the Mississippi alluvial valley to the north and the deltaic plain to the south. The basin is a broad, flat, sparsely populated, heavily forested tract measuring approximately 9,850 sq km (3,800 sq mi) in extent. It consists of a complex mosaic of backswamp, highly turbid and sluggish streams bounded by alluvial ridges (natural levees), and shallow freshwater lakes. The basin is a topographic depression flanked by the Teche meander belt ridge of the Mississippi River to the west, the modern Mississippi meander belt ridge to the northeast, and the Lafourche meander belt ridge to the southeast (Figure 3). The Atchafalaya River, currently a major distributary of the Mississippi River, is the principal stream within the basin and it flows southward through the approximate center of the basin, eventually draining into the Gulf of Mexico.

At one time or another, virtually all of the many streams within the basin originated or functioned as distributaries of the Mississippi River. Many are largely abandoned and filled while others have experienced multiple episodes of activity, sometimes with reversals in flow direction. Since near the beginning of this century, the basin has been subjected to extensive levee construction, dredging, channelization, and the formation of cutoffs in an attempt to reconcile the often conflicting goals of flood control, navigation, and environmental management.

Excluding stream banks at low water stages, local relief in the Atchafalaya Basin seldom exceeds 2 m (6.5 ft). Maximum natural elevations approximating 3 m (9.8 ft) above mean sea level (NGVD) occur along natural levee crests while elevations in the backswamp areas average only about 2.0 to 2.5 m (6.5 to 8.2 ft) above that datum.

Surface runoff from the Atchafalaya Basin has varied widely over the last several centuries; it includes not only local precipitation but also contributions from both the Mississippi and Red Rivers. Since the 1970s and the construction of the water-control structures at Old River, the runoff has included the entire discharge of the Red River plus approximately 20 percent of the annual discharge of the Mississippi River. In earlier historic times, the Mississippi River contribution was smaller and the Red River discharge fluctuated between the Atchafalaya and Mississippi Rivers. Overbank flooding occurs mainly during the spring and early summer months and its magnitude has been influenced by the confinement of flood waters within the Atchafalaya Basin Floodway.

Geologic Framework

The Mississippi alluvial valley and deltaic plain have been affected for millions of years by downwarping within the broad, north-south trending Mississippi Embayment and the east-west trending Gulf Coast Syncline with which it merges (Saucier 1994). This resulted in the deposition during the Tertiary and Quaternary periods of tens of thousands of feet of sediments in alternating fluvial, deltaic, estuarine, and shallow marine environments. Accompanying the downwarping and sedimentation were the formation of zones of east-west trending growth faults and the intrusion of diapiric salt domes (Murray 1961). Both geologic processes largely determined the nature and extent of the petroleum resources which are so abundant in south Louisiana. Producing oil and gas wells occur in the project vicinity, but none apparently are present in the immediate project area.

Within this structural geologic framework, events relevant to this undertaking are those that occurred during the Pleistocene and Holocene epochs of the Quaternary period. Constituting the last 2.5 million years of geologic time, these epochs were dominated by the cyclical advance and retreat of continental glaciers and the rise and fall of sea level. Glaciers did not directly affect the Lower Mississippi Valley area, but on several occasions the alluvial valley served as a giant sluiceway for the transport of vast volumes of meltwater and glacial outwash to the Gulf of Mexico. These glacial stages were episodes marked by a Mississippi River braided stream regime, the transport and deposition largely of sands and gravels, during periods of relatively low sea level stands (Autin et al. 1991). In con-

trast, interglacial stages were times of stream meandering and meander belt formation, predominantly associated with fine-grained sediment loads (silts and clays), and relatively high sea level stands. Near the Gulf Coast, glacial stages were characterized by stream entrenchment with shorelines established well south of their present location. Interglacial stages represented times of entrenched valley filling, transgressing shorelines, and eventually deltaic plain formation through delta lobe growth and decay.

The project area portions of the Mississippi alluvial valley and the deltaic plain represent the cumulative products of multiple episodes of entrenchment and planation during the Pleistocene during which time Tertiary and early Quaternary formations were scoured to depths of as much as 120 m (394 ft). At the surface, the floodplain of the alluvial valley and the inland margin of the deltaic plain are flanked by Pleistocene terraces dating from the Sangamon and Mid-Wisconsin Stages. All deposits to a depth of several tens of meters in the project area, however, are of Holocene age.

The alluvial deposits that fill the entrenchment of the Atchafalaya Basin area consist of a substratum of coarse-grained material capped by a fine-grained topstratum (May et al. 1984). Substratum deposits consist predominantly of sands that grade downward into sands and gravels (glacial outwash) of Wisconsin-Stage age or older that extend from the base of the entrenchment (30 to 100 m [98 to 328 ft]) to within 30 to 35 m (98 to 115 ft) of the surface. The age of the basal portion of the substratum probably exceeds 20,000 years (Saucier 1994), while the uppermost deposits date from about 10,000 to 12,000 years B.P. (Krinitzsky and Smith 1969; Saucier 1994; Smith et al. 1986). At the time the deposits were being laid down, sea level was at least 30 m (98 ft) lower than at present.

Within the Atchafalaya Basin area, the 30 to 35 m (98 to 115 ft) thick fine-grained topstratum represents overbank deposition form the Mississippi and Red Rivers while they have flowed in meandering or anastomosing regimes during the last 10,000 to 12,000 years. Several discrete environments associated with this deposition are represented. Along the flanks of the basin in the areas of the Teche and the modern Mississippi River meander belts, the sediments were laid down primarily in natural levee, point bar, and abandoned channel environments. Across the broad expanse of the central and southern portions of the basin, however, some natural levee and abandoned course environments are represented, but the vast majority of the sediments were laid down in interdistributary wetlands consisting of backswamp, lacustrine, and lacustrine delta environments. Because of shifts in the balance between base level changes from the south and the input of fluvial sediments from the north, landscapes of the basin have varied during the Holocene from shallow swamps through deep swamps to shallow lakes (Coleman 1966; Krinitzsky and Smith 1969).

Since sea level reached to within a few meters of its present level by about 5,000 years ago and it has been rising relatively slowly since, base levels have been relatively stationary and the overall trend in the basin has been toward the formation of higher and drier swamps and low alluvial ridges. The trend dramatically increased during late prehistoric times and the historic period; increased rates of sediment input have transformed extensive lacustrine areas such as Chicot, Grand, and Six Mile Lakes (Figure 4) into subaerial environments (Fisk 1952; Gagliano and van Beek 1975). Almost everywhere in the basin, aggradation has prevailed over the effects of regional subsidence and sediment compaction. Within the last several decades, the sediment storage capacity of the basin has declined because of continued filling, and the locus of deposition has shifted from the basin into Atchafalaya Bay where true delta building has begun (Figure 3).

Landforms and Depositional Environments

A total of five depositional environments (natural levee, point bar, distibutary natural levee, abandoned course, and backswamp) are present at the surface and in the shallow subsurface within a several kilometer radius of the Bayou Sorrel project area, and their locations and characteristics are important in understanding the history of the area (Figure 5). Each environment is represented by a distinctive sedimentary sequence and a characteristic landscape. Each of these environments is discussed below.

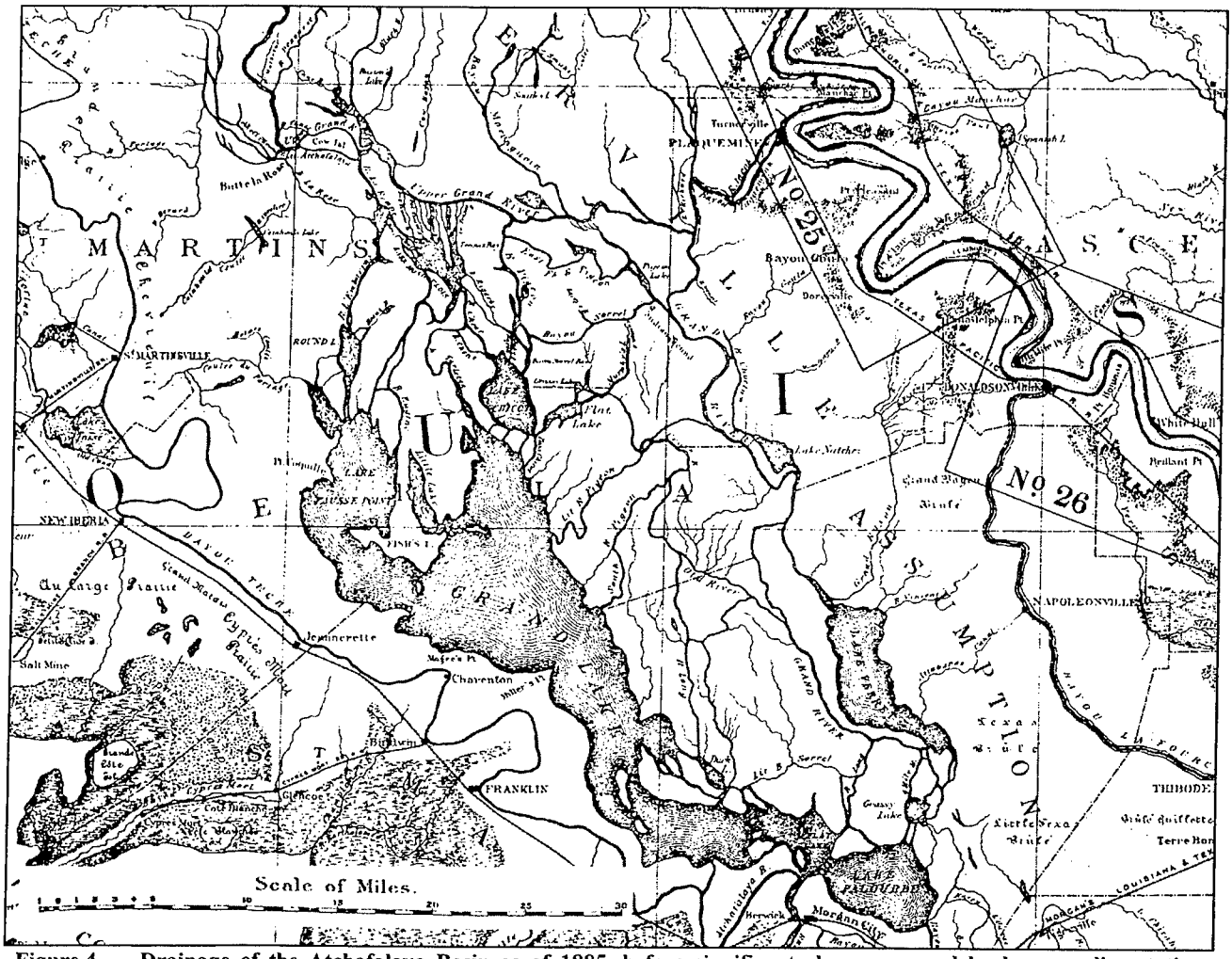

Figure 4. Drainage of the Atchafalaya Basin as of 1885, before significant changes caused by heavy sedimentation during the past century. From Mississippi River Commission (1885).

Natural Levee (NL)

In a general sense, natural levees are low, gently sloping alluvial ridges that flank the streams that carry high suspended loads and periodically overtop their banks. The ridges are highest near the stream channels and they slope outward (distally) toward the adjacent floodbasins (backswamps). Natural levee sizes vary as a function of the discharge of the parent streams and as a function of age. Other factors being equal, the largest natural levee ridges flank streams that have been active the longest periods of time.

The largest natural levee ridges in the project vicinity are those that flank Lower Grand River and, relatively speaking, they appear to be poorly developed because the stream is geologically rather young. They measure less than 2 m (6.5 ft) in height and generally less than 1 km (0.62 mi) in width and they extend along each side of the river channel (Figure 5). Nevertheless, these features provided corridors relatively immune from flooding in which it has been possible to live and to build permanent roads and structures of various types.

Despite their immaturity, the natural levee deposits have the highest consistencies of any of the deposits in the project area, consisting of medium to stiff, well-oxidized, mottled brown and gray clays and silty clays that were laid down incrementally as overbank sediments during flood stages. Soils developed on the natural

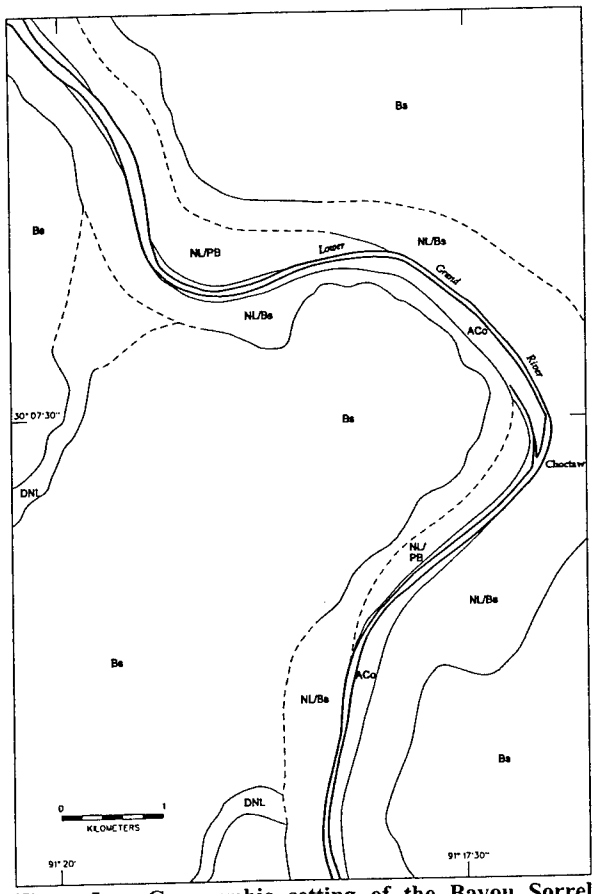

Figure 5. Geomorphic setting of the Bayou Sorrel project area. ACo=abandoned course; Bs=backswamp; DNL=distributary natural levee; NL=natural levee; PB=point bar. Note that the Intracoastal Waterway and other artificial channels are not shown.

levees in the vicinity have been mapped mostly as Sharkey clay and Convent and Fausse soils (Spicer et al. 1977). Some areas of Sharkey silty clay loam and Vacherie silt loam occur on higher areas just to the north of the project area.

It is interpreted that the natural levees along Lower Grand River are relatively thin and that they overlie thick backswamp deposits (Krinitzsky and Smith 1969) (Figure 5). The Lower Grand River channel apparently formed relatively late in the Holocene history of the Atchafalaya Basin area, well after extensive backswamp deposits had been laid down. The history of the area is discussed more fully later in this chapter.

Point Bar (PB)

This depositional environment includes the zones in which the river channels, while active, meander laterally, scour away older alluvial and/or deltaic deposits, and lay down relatively coarse-grained channel deposits. As river channels migrate laterally, they erode their outer (cutbank) side while depositing mostly silts and sands on point bars on their inner banks. These silty and sandy deposits extend to the maximum depth of the migrating channel (several tens of meters).

As migrating channels move away from given points, point bar deposits often become progressively veneered with overbank sediments that eventually form cappings of true natural levee deposits. Newly formed point bar areas typically exhibit an alternating ridge and swale topography, but these features become progressively obscured as the natural levee veneer grows, and may eventually lose most surface expression. This is the case with the point bar areas found along the Lower Grand River which are present but difficult to delineate.

Distributary Natural Levee (DNL)

Natural levees accrete vertically by sediments laid down by sheet flow during periods of overbank flooding, but also by the coalescence of numerous small crevasse splays where overbank flow becomes temporarily concentrated and it forms a fan-like deposit. Occasionally, however, some crevasses will persist through multiple flood events and they may form small distributaries that trend for several kilometers away from the parent channel and across the natural levee. Where the crevasses are unusually well developed, the channels become flanked with small natural levee ridges that lower and narrow outward toward the distal ends of the crevasse systems.

There are two small distributaries present along the right descending bank of Lower Grand River in the vicinity of the proposed project corridor (Figure 5). The northernmost one is occupied by a small unnamed stream that flows southwestward into a backswamp area while the southernmost lacks a stream and it is visible

only on aerial photos due to only slight changes in vegetation. Both provided narrow corridors of relatively high ground that may have been important to prehistoric populations.

Abandoned Course (ACo)

Geomorphic evidence indicates that the Lower Grand River once carried an appreciably higher discharge than at present. Prominent relict banklines, immediately flanked by conspicuous natural levees, indicate a former stream channel that measured up to 250 m (820 ft) in width, whereas the present channel averages less than 100 m (328 ft) in width. Between the two are narrow zones of accretion, flanking one or both sides of the river, at distinctly lower elevations. They are poorly drained and swampy belts underlain probably by mostly soft to medium, largely unoxidized, laminated clays and silts that contain small amounts of sand. Based on evidence from analogous situations throughout other parts of the basin area, the deposits should become soft and watery with depth and they extend to a depth of several tens of meters (May et al. 1984). In essence, a natural levee flanking the present channel is absent as a thin veneer over the abandoned course deposits. Because of their lower elevations and weak soils, the abandoned course deposits are poor locations for habitation and they use and have remained largely uninhabited.

As will be explained later in this report, the history of the project vicinity suggests that a reduction in the size of the channel took place in two episodes, one due to natural causes and one due to artificial channel modification during the historic period. As such, the original channel has not been abandoned completely since the Lower Grand River survives as a remnant, underfit stream.

Backswamp (Bs)

This environment involves the essentially flat, broad, frequently flooded tracts that exist between natural levee ridges. Drainage is poor and by way of a tortuous network of winding channels and narrow lakes that mostly display an anastomosing pattern. Deposits consist of mucks, organic clays, and clays -- the inorganic fractions being laid down in thin increments during times of overbank flooding. Seasonal drying and desiccation are so infrequent that the strengths of the deposits remain extremely low. Peat lenses, wood fragments, and evidences of bioturbation are common.

Borings made along the East Atchafalaya Levee at Bayou Sorrel and Pigeon indicate that backswamp deposits extend to a depth of 27 to 30 m (90 to 100 ft) and they are immediately underlain by coarse-grained substratum deposits (Krinitzsky and Smith 1969). The thick sequence of overbank deposits indicates deposition in environments ranging from lake to well-drained swamp. At the present ground surface, soils have been mapped as Sharkey clay (frequently flooded) or ones belonging to the Fausse association (Spicer et al. 1977). These support a variety of species, including cypress/tupelo gum/red gum, and where disturbed or cut over, these areas may contain stands of pumpkin ash, red maple, and buttonbush.

Traditionally, backswamps have been the domain of recreational and commercial hunters, trappers, and fishermen who have exploited the extremely large populations of deer, turkey, squirrels, waterfowl, birds, reptiles, freshwater fishes, and fur bearing animals. Most area settlers and visitors sought these resources, seeking access by way of natural channels. Within the last several decades, however, these have been augmented by a network of canals dug for oil fields, pipelines, and flood control and navigation improvements. Despite these developments, the backswamp areas remain essentially devoid of permanent habitation while the banks of the Lower Grand River are heavily populated by a typical south Louisiana "string village."

Geomorphic History and Development

As indicated above, the Mississippi River ceased carrying glacial meltwater and outwash to the Gulf of Mexico about 10,000 to 12,000 years ago (Saucier 1994). This marked the end of the deposition of the coarse-grained substratum by braided streams and the beginning of the deposition of the finer-grained topstratum by anastomosing or meandering streams. As a reflection of greatly diminished river discharge and sea level rise, the landscape of the project vicinity changed rapidly from a sandy plain to a

shallow-water lake or estuary. The elevation of the estuary was approximately 25 to 30 m (82 to 98 ft) lower than at present.

Very little is known about the character and location of the Mississippi River channel in the Atchafalaya Basin area from about 10,000 to 7,000 years ago, i.e., when the basal portion of the topstratum was deposited. Recent investigations suggest that the river was flowing in an anastomosing pattern and probably filling shallow lakes and backswamp areas as it has been doing in modern times (Aslan 1994). By about 7,000 years ago, however, the river had begun constructing a meander belt ridge along the western side of its alluvial valley in the vicinity of the present Teche meander belt ridge (Figure 3) (Frazier 1967; Saucier 1994). Conditions in the Atchafalaya Basin area probably did not change significantly when this occurred.

By about 5,000 years ago, as a result of a major upstream diversion, the Mississippi River shifted to the eastern side of its valley and began constructing a meander belt close to its present location (Figure 3). Coinciding with a reduction in the rate of sea level rise and hence greater base level stability, this event probably marked the beginning of increased crevassing along the Mississippi River and the extension of distributaries into the upper part of the basin area north of the project area. Bayou Maringouin, shown on Figure 4, may represent one of those distributaries according to Fisk (1944, 1952). The locations of the channels that conveyed the overflow through the southern end of the basin are not known, but it is possible that the Lower Grand River may have been one of them.

From about 5,000 to about 3,000 years ago, the backswamps of the lower end of the Atchafalaya Basin merged imperceptibly with the swamps and marshes of the upper part of the deltaic plain although no direct marine influence extended into the basin area. With the development of the early phase of the Lafourche delta lobe about 3,500 years ago (Frazier 1967; Saucier 1994), a meander belt ridge built southward and intersected the Teche ridge, forming a low alluvial barrier across the southern end of the basin (Figure 3). Shortly after the ridges intersected, the Atchafalaya River must have breached the Teche ridge in the vicinity of Morgan City (Figure 3) and it provided an outlet for basin drainage. Nevertheless, the relatively small size of the outlet must have caused an increase in the extent and/or magnitude of swamp conditions in the basin. Slow aggradation in backswamp areas continued through the addition of fine-grained overbank sediments.

Between about 3,500 and 2,000 years ago, the central part of the Atchafalaya Basin apparently was not affected by any *major* Mississippi River distributaries. The Atchafalaya River served to gather and convey basin overflow and it cannot be considered a major distributary during that interval. Its original route through the basin was by way of the Upper Grand River, the west fork of Bayou Pigeon, Bayou Sorrel, and thence into the (Lower) Grand River (Figure 4). It is not known when the Atchafalaya River abandoned this route in favor of its present one which trends along Bayou La Rompe and Bayou Chene into Grand Lake (Figure 4). The present route was definitely well established by the 1880s as documented by historic maps, but it could have been as early as the 15th century A.D. About that time, it is believed that the Atchafalaya River first began functioning as a major Mississippi River distributary as a consequence of channel changes in the vicinity of Old River, i.e., at the upper end of the basin.

Abandonment of the Lower Grand River by the Atchafalaya River probably was a factor contributing to the decrease in the size of the river channel and the deposition of some abandoned course deposits. This was overshadowed, however, by an earlier event that had a similar but larger effect. This event was the formation of Bayou Plaquemine as a Mississippi River distributary of modest size. That distributary originated as a crevasse at the town of Plaquemine with the flow following Bayous Plaquemine and Jacob into the Lower Grand River north of the project area (Figure 4). The Bayou Plaquemine distributary functioned long enough for an appreciable natural levee ridge to form and may well have been the source of most of the natural levee in the project vicinity as well as most, if not all, of the point bar accretion. Neither the dates of the initiation of the distributary nor its effective abandonment are known. Bayou Plaquemine is known to have been open to the river at least at high stages in 1699 when observed by d'Iberville and it was open to naviga-

tion until 1961 when it was artificially closed, but it apparently carried a relatively small sediment load. Based on geological evidence, the distributary could have formed at any time from about 3,500 to 1,700 years B.P. The Mississippi River was well established in its present meander belt during that interval and it is known to have experienced several major crevasse systems in the reach between Baton Rouge and New Orleans (Britsch and Dunbar 1990). Bayou Plaquemine may have been another one dating from this period; the most likely time would have been about 2,000 years ago.

In an absence of tangible evidence relating to the age of the distributary, it is hypothesized on the basis of geomorphic evidence that appreciable discharge and sediment movement through the Lower Grand River channel due to the Bayou Plaquemine distributary ended about 500 years ago. Since that time, the channel has continued to narrow as progressive channel filling has taken place. It should be noted that construction of the Bayou Sorrel Lock, Intracoastal Waterway, and East Atchafalaya Levee did not have any significant influence on fluvial processes in Lower Grand River since no diversion of flow resulted from these projects.

Geoarcheological Considerations

The mapping of depositional environments throughout the project area and the development of the chronological model described above allow for a reasonably confident prediction as to where prehistoric archeological sites may have occurred or still may exist. These models provide an understanding of channel and landform changes as these may have affected settlements and navigation and commerce routes during historic times. More specifically, because actual site prediction involves many cultural and intangible factors in addition to aspects of the physical environment, the prediction is actually one related to landscape habitability. It is possible to estimate where prehistoric habitation *could have taken place,* not necessarily where it did. Perhaps of greater importance, it is possible to estimate where habitation *could not have occurred* or where cultural remains would have been destroyed by geomorphic processes. This prediction, therefore, is intended as an independent assessment to be used to guide the field effort within the project area.

Without question, no cultural remains dating from the Paleo-Indian or Early and Middle Archaic periods will be encountered near the surface in the project area. Any possible archeological sites dating from 12,000 and 5,000 years ago would have been buried to depths greater than 5 m (16 ft), but of greater importance, there is no reason to suspect the presence in the subsurface of any landforms (e.g., natural levees) that would have been favorable for habitation. For a majority of the time prior to 5,000 years ago, the project area was dominated by wetland (backswamp or lake) environments unsuitable for any activity other than temporary and occasional resource exploitation.

By possibly 5,000 years ago but more likely 3,500 years ago, the Atchafalaya River was flowing in a channel along or near the present Lower Grand River. It is therefore *possible* that archeological sites dating from the Late Archaic period or early Formative stage may be present. It must also be considered that the river was not carrying sufficient Mississippi River sediments to build a substantial natural levee ridge and the ground surface at that time will be buried by more recent sediments to a depth of several meters.

The most likely time for significant natural levee growth along the Lower Grand River, due to the Bayou Plaquemine distributary, would have been from about 2,000 to 1,000 years ago with a slow decline thereafter. This also would have been the time of formation of the two small distributaries from the Lower Grand River in the project area as described above. Consequently, archeological sites dating from the middle and late Formative stage likely would be present since the environment and landscape would have been favorable for permanent habitation, especially when flow in the distributary began to decline. Sites of this vintage likely would be present near the natural levee crests, away from the zones of lateral channel migration (point bar areas), adjacent to the zone of abandoned course filling, and either would be at or near the present ground surface.

With regard to the historic period, most of the extensive population growth in the project

vicinity has taken place since construction of the East Atchafalaya Levee and the Bayou Sorrel Lock. There is, however, a high probability that some structures built to withstand extensive seasonal basin flooding, dating from the nineteenth century, were located along or near the banks of the Lower Grand River. These would have included the temporary or permanent residences of both sport and commercial fishermen, hunters, and trappers as well as those employed in the lumbering industry. In the same regard, the river served as a major corridor of movement for waterborne vessels throughout the historic period. Navigation to and from the Mississippi River into the system of interior waterways of the basin via the Lower Grand River was a major activity for many years prior to 1961. Since the river channel has been slowly shallowing and narrowing, conditions may be favorable for the preservation of sunken vessels. Buried shipwrecks could be present just about anywhere in the zone of abandoned course filling shown in Figure 5.

Flora in the Vicinity of the Proposed Project Reach

The floral community within southeastern Louisiana project item consists of a complex mosaic of tree species that form the bottomland hardwood forests (Table 1). Forest vegetation along the natural levees of the proposed project reach includes a variety of mixed, deciduous, hardwood species such as oak (*Quercus* sp.), bitter pecan (*Carya illinoensis*), red maple (*Acer rubrum*), and green ash (*Fraxinus pennsylvanica*).

Within the older, non-swampy portions of the alluvial plain, forest types vary in composition. Tree species typical of this area include oak (*Quercus* sp.), hackberry (*Celtis laevigata*), boxelder (*Acer negundo*), and American sycamore (*Platanus occidentalis*). Where disturbed, the bottomland hardwood forest of the alluvial plain is dominated by ash (*Fraxinus* sp.) in addition to boxelder, hackberry, and American sycamore, and, less commonly, oak. In the backswamp areas situated away from the natural levees, forest vegetation, where it has not been cleared, cypress (*Taxodium distichum*) and tupelo (*Nyssa aquatica*).

Table 1. Trees in the Vicinity of the Project Reach.

COMMON NAME	SCIENTIFIC NAME
Florida Maple	*Acer barbatum*
Chalk Maple	*Acer leucoderme*
Ashleaf Maple (Box-Elder)	*Acer negundo*
Red Maple	*Acer rubrum*
Silver Maple	*Acer saccharinum*
Red Buckeye	*Aesculus pavia*
Downy Juneberry	*Amelanchier arborea*
Hercules-Club	*Aralia spinosa*
Common (Tall) Pawpaw	*Asimina triloba*
Groundsel-Tree	*Baccharis halimifolia*
River Birch	*Betula nigra*
Gum (Woolly) Bumelia	*Bumelia lanuginosa*
Buckthorn Bumelia	*Bumelia lycioides*
Ironwood	*Carpinus caroliniana*
Water Hickory (Bitter Pecan)	*Carya aquatica*
Bitternut Hickory	*Carya cordiformis*
Pignut Hickory	*Carya glabra*
Pecan	*Carya illinoenis*
Mockernut Hickory	*Carya tomentosa*
Allegheny (Eastern) Chinkapin	*Castanea pumila*
Southern (Lowland) Hackberry	*Celtis laevigata*
Dwarf (Upland) Hackberry	*Celtis tenuifolia*
Buttonbush	*Cephalanthus occidentalis*
Redbud	*Cercis canadensis*
Fringetree	*Chionanthus virginicus*
Roughleaf Dogwood	*Cornus drummondii*
Flowering Dogwood	*Cornus florida*
Common Persimmon	*Diospyros virginiana*
Southeastern Coralbean	*Erythrina herbacea*
Beech	*Fagus grandifolia*
Swamp Forestiera	*Forestiera acuminata*
Green Ash	*Fraxinus pennsylvanica*
Pumpkin Ash	*Fraxinus profunda*
Water Locust	*Gleditsia aquatica*
Honey Locust	*Gleditsia triacanthos*
Two-wing Silverbell	*Halesia parviflora*
Common Witch-Hazel	*Hamamelis virginiana*
Carolina Holly	*Ilex ambigua*
Possumhaw (Deciduous) Holly	*Ilex decidua*
Largeleaf Holly	*Ilex montana*
American Holly	*Ilex opaca*
Common Winterberry Holly	*Ilex verticillata*
Yaupon Holly	*Ilex vomitoria*
Southern Redcedar	*Juniperus silicicola*
Sweetgum	*Liquidambar styraciflua*
Tuliptree	*Liriodendron tulipifera*
Cucumber Magnolia	*Magnolia acuminata*
Southern Magnolia	*Magnolia grandiflora*
Pyramid Magnolia	*Magnolia pyramidata*
Sweetbay Magnolia	*Magnolia virginiana*
Red Mulberry	*Morus rubra*
Southern Bayberry A121	*Myrica cerifera*
Water Tupelo	*Nyssa aquatica*
Sourgum	*Nyssa sylvatica*
Devilwood	*Osmanthus americanus*
Sourwood	*Oxydendrum arboreum*
Hornbeam	*Oystrya virginiana*

Table 1, continued

COMMON NAME	SCIENTIFIC NAME
Redbay	*Persea borbonia*
Shortleaf Pine	*Pinus echinata*
Spruce Pine	*Pinus glabra*
Longleaf Pine	*Pinus palustris*
Lobolly Pine	*Pinus taeda*
Water-Elm	*Planera aquatica*
Eastern Sycamore	*Platanus occidentalis*
Eastern (Common) Cottonwood	*Populus deltoides*
Swamp Cottonwood	*Populus heterophylla*
Chickasaw Plum	*Prunus angustifolia*
Carolina Laurelcherry	*Prunus caroliniana*
Mexican Plum	*Prunus mexicana*
Black Cherry	*Prunus serotina*
Flatwoods Plum	*Prunus umbellata*
Hoptree	*Ptelea trifoliata*
White Oak	*Quercus alba*
Southern Red (Spanish) Oak	*Quercus falcata*
Cherrybark Oak	*Quercus falcata var. pagodaefolia*
Laurel (Darlington) Oak	*Quercus laurifolia*
Overcup Oak	*Quercus lyrata*
Blackjack Oak	*Quercus marilandica*
Basket Oak	*Quercus michauxii*
Chinkapin Oak	*Quercus muehlenbergii*
Water Oak	*Quercus nigra*
Nuttall Oak	*Quercus nuttallii*
Willow Oak	*Quercus phellos*
Northern Red Oak	*Quercus rubra*
Shumard Oak	*Quercus shumardii*
Post Oak	*Quercus stellata*
Black Oak	*Quercus velutina*
Virginia Live Oak	*Quercus virginiana*
Carolina Buckthorn	*Rhamnus caroliniana*
Winged Sumac	*Rhus copallina*
Smooth Sumac	*Rhus glabra*
Dwarf Palmetto	*Sabal minor*
Sandbar Willow	*Salix exigua*
Black Willow	*Salix nigra*
Common Elderberry	*Sambucus canadensis*
Western Soapberry	*Sapindus drummondii*
Sassafras	*Sassafras albidum*
Virginia Stewartia (Silky Camellia)	*Stewartia malachodendron*
American Snowbell	*Styrax americanus*
Bigleaf Snowbell	*Styrax grandifolius*
Sweetleaf	*Symplocos tinctoria*
Baldcypress	*Taxodium distichum*
Pondcypress	*Taxodium distichum var nutans*
Carolina Basswood	*Tilia caroliniana*
Poison-Sumac	*Toxicodendron vernix*
Winged Elm	*Ulmus alata*
American Elm	*Ulmus americanus*
Cedar Elm	*Ulmus crassifolia*
Sparkleberry (Farkleberry)	*Vaccinium arboreum*
Rusty Blackhaw	*Viburnum rufidulum*
Southern Prickly-Ash	*Zanthoxylum clava-herculis*

Fauna in the Vicinity of the Proposed Project Reach

During both the prehistoric and historic periods, the vicinity of the proposed project reach supported a large and varied faunal community; however, some of these species have been eliminated by historic and modern development. The following discussion identifies those species that probably were present during late prehistoric and historic times.

Game animals common to the project area included white-tailed deer (*Odocoileus virginianus*), swamp rabbit (*Sylvilagus aquaticus*), eastern gray squirrel (*Sciurus carolinensis*), eastern fox squirrel (*Sciurus niger*), swamp rabbit, eastern cottontail (*Sylvilagus floridanus*) and black bear (*Ursus americanus*) (Table 2). Predatory mammals found throughout the bottomland hardwood environments also included the gray fox (*Urcyon cinereoargenteus*), raccoon (*Procyon lotor*), long-tailed weasel (*Mustela frenata*), mink (*Mustela vison*), and bobcat (*Lynx rufus*), as well as the endangered and regionally extinct Eastern panther (*Felis concolor*) and red wolf (*Canis niger*), respectively. In addition, the mink, raccoon, beaver (*Castor canadensis*), and opossum (*Didelphis virginiana*) all were important fur bearers that lived in the bottomland hardwood environments. These animals not only served as important sources of food, but the furs served as the raw materials used in the production of clothing (Lowery 1974a).

Table 2. Mammals in the Vicinity of the Project Reach.

COMMON NAME	SCIENTIFIC NAME
Shorttail Shrew	*Blarina brevicauda*
Coyote	*Canis latrans*
Beaver	*Castor canadensis*
Least Shrew	*Cryptotis parva*
Armadillo	*Dasypus novemcinctus*
Opossum	*Didelphis virginiana*
Big Brown Bat	*Eptesicus fuscus*
Mountain Lion (Puma)	*Felis concolor*
Southern Flying Squirrel	*Glaucomys volans*
Red Bat	*Lasiurus borealis*
Hoary Bat	*Lasiurus cinereus*
Eastern Yellow Bat	*Lasiurus intermedius*
Seminole Bat	*Lasiurus seminolus*
River Otter	*Lutra canadensis*
Bobcat	*Lynx rufus*

Table 2, continued

COMMON NAME	SCIENTIFIC NAME
Striped Skunk	*Mephitis mephitis*
House Mouse (Introduced)	*Mus musculus*
Longtail Weasel	*Mustela frenata*
Mink	*Mustela vison*
Nutria (Introduced)	*Myocastor coypus*
Mississippi Myotis	*Myotis austroriparius*
Eastern Woodrat	*Neotoma floridana*
Shrew-Mole	*Neurotrichus gibbsi*
Evening Bat	*Nycticeius humeralis*
Whitetail Deer	*Odocoileus virginianus*
Muskrat	*Ondatra zibethica*
Rice Rat	*Oryzomys palustris*
Cotton Mouse	*Peromyscus gossypinus*
White-footed Mouse	*Peromyscus leucopus*
Golden Mouse	*Peromyscus nuttalli*
Eastern Pipistrel	*Pipistrellus subflavus*
Pine Vole	*Pitymys pinetorum*
Eastern Big-eared Bat	*Plecotus refinesquei*
Raccoon	*Procyon lotor*
Norway Rat (Introduced)	*Rattus norvegicus*
Black Rat (Introduced)	*Rattus rattus*
Fulvous Harvest Mouse	*Reithrodontomys fulvescens*
Eastern Harvest Mouse	*Reithrodontomys humulis*
Eastern Mole	*Scalopus aquaticus*
Eastern Gray Squirrel	*Sciurus carolinensis*
Eastern Fox Squirrel	*Sciurus niger*
Hispid Cotton Rat	*Sigmodon hispidus*
Southeastern Shrew	*Sorex longirostris*
Spotted Skunk	*Spilogale putorius*
Swamp Rabbit	*Sylvilagus aquaticus*
Eastern Cottontail	*Sylvilagus floridanus*
Mexican Freetail Bat	*Tadarida brasiliensis*
Gray Fox	*Urocyon cinereoargenteus*
Black Bear	*Ursus americanus*
Red Fox	*Vulpes fulva*

Bottomland hardwood forests and swamps are home to a variety of amphibians, including salamanders, toads, tree frogs, and true frogs (Table 3). These amphibians typically require very moist soils, temporary pools, or permanent ponds. The numerous reptiles found within the bottomland hardwood forests include not only the American alligator (*Alligator mississippiensis*), but also of a number of iguanids, skinks, lizards, snakes, pit vipers, and turtles. Like the amphibians, most of the reptiles prefer either moist or aquatic habitats (Conant and Collins 1991).

The project region also was home to a number of fresh water fish species; these included the shovelnose sturgeon (*Scaphirhynchus*

Table 3. Reptiles and Amphibians in the Vicinity of the Project Reach.

COMMON NAME	SCIENTIFIC NAME
Northern Cricket Frog	*Acris crepitans crepitans*
Southern Cricket Frog	*Acris gryllus gryllus*
Southern Copperhead	*Agkistrodon contortrix contortrix*
Western Cottonmouth	*Agkistrodon piscivorus leucostoma*
American Alligator	*Alligator mississippiensis*
Spotted Salamander	*Ambystoma maculatum*
Marbled Salamander	*Ambystoma opacum*
Mole Salamander	*Ambystoma talpoideum*
Smallmouth Salamander	*Ambystoma texanum*
Three-toed	*Amphiuma Amphiuma tridactylum*
Green Anole	*Anolis carolinensis*
Midland Smooth Softshell Turtle	*Apalone mutica mutica*
Gulf Coast Spiny Softshell Turtle	*Apalone spinifera aspera*
Eastern Spiny Softshell Turtle	*Apalone spinifera spinifera*
Eastern American Toad	*Bufo americanus americanus*
Southern Toad	*Bufo terrestris*
Gulf Coast Toad	*Bufo valliceps valliceps*
Fowler's Toad	*Bufo woodhousii fowleri*
Woodhouse's Toad	*Bufo woodhousii woodhousii*
Eastern Worm Snake	*Carphophis amoenus amoenus*
Common Snapping Turtle	*Chelydra serpentina*
Southern Painted Turtle	*Chrysemys picta dorsalis*
Bronze Frog *Rana*	*clamitans clamitans*
Blackmask Racer	*Coluber constrictor latrunculus*
Timber Rattlesnake	*Crotalus horridus*
Eastern Chicken Turtle	*Deirochely reticularia reticularia*
Western Chicken Turtle	*Deirochelysreticularia miaria*
Southern Dusky Salamander	*Desmognathus auriculatus*
Spotted Dusky Salamander	*Desmognathus fuscus conanti*
Mississippi Ringneck Snake	*Diadophis punctatus stictogenys*
Corn Snake	*Elaphe guttata guttata*
Texas Rat Snake	*Elaphe obsoleta lindheimerii*
Gray Rat Snake	*Elaphe obsoleta spiloides*
Five-lined Skink	*Eumeces fasciatus*
Southeastern Five-lined Skink	*Eumeces inexpectatus*
Broadhead Skink	*Eumeces laticeps*
Southern Two-lined Salamander	*Eurycea cirrigera*
Three-lined Salamander	*Eurycea longicauda guttolineata*
Dwarf Salamander	*Eurycea quadridigitata*
Western Mud Snake	*Farancia abacura reinwardtii*
Rainbow Snake	*Farancia erytrogramma*
Eastern Narrowmouth Toad	*Gastrophryne carolinensis*
Mississippi Map Turtle	*Graptemys kohnii*
Ouachita Map Turtle	*Graptemys pseudogeographica ouachitensis*
Four-toed Salamander	*Hemidactylium scutatum*
Mediterranean Gecko (Introduced)	*Hemidactylus turcicus*
Eastern Hognose Snake	*Heterodon platirhinos*
Bird-voiced Treefrog	*Hyla avivoca*
Green Treefrog	*Hyla cinerea*
Pine Woods Treefrog	*Hyla femoralis*
Barking Treefrog	*Hyla gratiosa*

Table 3, continued

COMMON NAME	SCIENTIFIC NAME
Squirrel Treefrog	*Hyla squirella*
Gray Treefrogs	*Hyla versicolor* and *Hyla chrysoscelis*
Mississippi Mud Turtle	*Kinosternon subrubrum hippocrepis*
Speckled Kingsnake	*Lampropeltis getula holbrooki*
Louisiana Milk Snake	*Lampropeltis triangulum amaura*
Scarlet Kingsnake	*Lampropeltis triangulum elapsoides*
Alligator Snapping Turtle	*Macroclemys temminckii*
Mississippi Green Water Snake	*Nerodia cyclopion*
Yellowbelly Water Snake	*Nerodia erythrogaster flavigaster*
Broad-banded Water Snake	*Nerodia fasciata confluens*
Diamondback Water Snake	*Nerodia rhombifer*
Midland Water Snake	*Nerodia sipedon pleuralis*
Central Newt	*Notophthalmus viridescens louisianensis*
Eastern Slender Glass Lizard	*Ophisaurus attenuatus longicaudus*
Eastern Glass Lizard	*Ophisaurus ventralis*
Mississippi Slimy Salamander	*Plethodon mississippi*
Webster's Salamander	*Plethodon websteri*
Northern Spring Peeper	*Pseudacris crucifer crucifer*
River Cooter	*Pseudemys concinna*
Bullfrog	*Rana catesbeiana*
Pig Frog	*Rana grylio*
Pickerel Frog	*Rana palustris*
Southern Leopard Frog	*Rana utricularia*
Graham's Crayfish Snake	*Regina grahamii*
Delta Crayfish Snake	*Regina rigida deltae*
Gulf Crayfish Snake	*Regina rigida sinicola*
Queen Snake	*Regina septevittata*
Southern Redback	*Salamander Plethodon serratus*
Eastern Spadefoot	*Scaphiopus holbrookii holbrookii*
Southern Fence Lizard	*Sceloporus undulatus undulatus*
Ground Skink	*Scincella lateralis*
Western Lesser	*Siren Siren intermedia nettingi*
Western Pigmy Rattlesnake	*Sistrurus miliarius streckeri*
Rough Green	*Snake Opheodrys aestivus*
Razorback Musk Turtle	*Sternotherus carinatus*
Common Musk Turtle	*Sternotherus odoratus*
Marsh Brown Snake	*Storeria dekayi limnetes*
Midland Brown Snake	*Storeria dekayi wrightorum*
Florida Redbelly Snake	*Storeria occipitomaculata obscura*
Three-toed Box Turtle *i*	*Terrapene carolina baur*
Gulf Coast Ribbon Snake	*Thamnophis proximus orarius*
Western Ribbon Snake	*Thamnophis proximus proximus*
Eastern Garter Snake	*Thamnophis sirtalis sirtalis*
Red-eared Slider	*Trachemys scripta elegans*
Rough Earth Snake	*Virginia striatula*
Western Earth Snake	*Virginia valeriae elegans*

platorynchus), alligator gar (*Attactosteus spatula*) large mouth bass (*Micropterus salmoides*) and bluegill (*Lepomis macrochirus*). In addition,carp (*Cyprinus carpio*), blue catfish (*Ictalurus punctatus*), channel catfish (*Ictalurus furcatus*), white crappie (*Poxomis annularis*), freshwater drum (*Aplodinotus grunniens*), garfish (*Lepisosteus* sp.), shad (*Dorosoma* sp.), and various suckers (*Catostomidae*) also were common (Conner 1977) (Table 4).

Table 4. Freshwater Fishes in the Vicinity of the Project Reach.

COMMON NAME	SCIENTIFIC NAME
Lake Sturgeon	*Acipenser fulvescens*
Alabama Shad	*Alosa alabamae*
Skipjack Herring	*Alosa chrysochloris*
Black Bullhead	*Ameiurus melas*
Yellow Bullhead	*Ameriurus natalis*
Bowfin	*Amia calva*
American Eel	*Anuilla rostrata*
Pirate Perch	*Aphredoderus sayanus*
Freshwater Drum	*Aplodinotus grunniens*
Alligator Gar	*Attactosteus spatula*
Central Stoneroller	*Campostoma anomalum*
River Carpsucker	*Carpiodes carpio*
Quillback	*Carpiodes cyprinus*
Highfin Carpsucker	*Carpiodes velifer*
Flier	*Centrarchus macropterus*
Bluntface Shiner	*Cyprinella camura*
Red Shiner	*Cyprinella lutrensis*
Blacktail Shiner	*Cyprinella venusta*
Gizzard Shad	*Dorosoma cepedianum*
Threadfin Shad	*Dorosoma petenense*
Banded Pygmy Sunfish	*Elassoma zonatum*
Creek Chubsucker	*Erimyzon oblongus*
Lake Chubsucker	*Erimyzon sucetta*
Grass or Redfin Pickerel	*Esox americanus*
Chain Pickerel	*Esox niger*
Mud Darter	*Etheostoma asprigene*
Naked Sand Darter	*Etheostoma beani*
Rainbow Darter	*Etheostoma caeruleum*
Bluntnose Darter	*Etheostoma chlorosomum*
Swamp Darter	*Etheostoma gracile*
Slough Darter	*Etheostoma gracile*
Harlequin Darter	*Etheostoma histrio*
Brighteye Darter	*Etheostoma lynceum*
Goldstripe Darter	*Etheostoma parvipinne*
Cypress Darter	*Etheostoma proeliare*
Scaley Sand Darter	*Etheostoma vivax*
Redfin Darter	*Etheostoma whipplei*
Speckled Chub	*Extrarius aestivalis*
Western Starhead Minnow	*Fundulus blairae*
Golden Topminnow	*Fundulus chrysotus*
Blackstripe Topminnow	*Fundulus notatus*
Blackspotted Topminnow	*Fundulus olivaceus*
Mosquito Fish	*Gambusia affinis*

Table 4, continued

COMMON NAME	SCIENTIFIC NAME
Goldeye	*Hiodon alosoides*
Mooneye	*Hiodon tergisus*
Cypress Minnow	*Hybognathus hayi*
Mississippi Silvery Minnow	*Hybognathus nuchalis*
Pallid Shiner	*Hybopsis amnis*
Clear Chub	*Hybopsis winchelli*
Northern Hog Sucker	*Hypentelium nigricans*
Chestnut Lampray	*Ichthyomyzon castaneus*
Southern Brook Lampray	*Ichtyomyzon gagei*
Blue Catfish	*Ictalurus furcatus*
Channel Catfish	*Ictalurus punctatus*
Smallmouth Buffalo	*Ictiobus bubalus*
Bigmouth Buffalo	*Ictiobus cyprinellus*
Black Buffalo	*Ictiobus niger*
Spotted Gar	*Lepisosteus oculatus*
Longnose Gar	*Lepisosteus osseus*
Shortnose Gar	*Lepisosteus platostomus*
Orangespotted Sunfish	*Lepomia humilis*
Dollar Sunfish	*Lepomia marginatus*
Green Sunfish	*Lepomis cyanellus*
Warmouth	*Lepomis gulosus*
Bluegill	*Lepomis macrochirus*
Longear Sunfish	*Lepomis megalotis*
Redear Sunfish	*Lepomis microlophus*
Spotted Sunfish	*Lepomis punctatus*
Bantam Sunfish	*Lepomis symmetricus*
Rainwater Killfish	*Lucania parva*
Striped Shiner	*Luxilus chrysocephalus*
Ribbon Shiner	*Lythrurus fumeus*
Redfin Shiner	*Lythrurus umbratilis*
Sturgeon Chub	*Macrhybopsis gelida*
Silver Chub	*Macrhybopsis storeriana*
Inland Silverside	*Menidia beryllina*
Spotted Bass	*Micropterus punctulatus*
Largemouth Bass	*Micropterus salmoides*
Spotted Sucker	*Minytrema melanops*
White Bass	*Morone chrysops*
Yellow Bass	*Morone mississippiensis*
Bluehead Chub	*Nocomis leptocephalus*
Ironcolor Shiner	*Nostropis chalybaeus*
Golden Shiner	*Notemigonus crysoleucas*
Emerald Shiner	*Notropis atherinoides*
River Shiner	*Notropis blennius*
Ghost Shiner	*Notropis buchanani*
Longnose Shiner	*Notropis longirostris*
Chub Shiner	*Notropis potteri*
Silverband Shiner	*Notropis shumardi*
Weed Shiner	*Notropis texanus*
Mimic Shiner	*Notropis volucellus*
Tadpole Madtom	*Noturus gyrinus*
Speckled Madtom	*Noturus leptacanthus*
Brindled Madtom	*Noturus miurus*
Freckled Madtom	*Noturus nocturnus*
Brown Madtom	*Noturus phaeus*
Pugnose Minnow	*Opsopoeodus emiliae*
Logperch	*Percina caprodes*
Blackside Darter	*Percina maculata*
Saddleback Darter	*Percina ouachitae*

Table 4, continued

COMMON NAME	SCIENTIFIC NAME
Dusky Darter	*Percina sciera*
Southern Redbelly Dace	*Phoxinus erythrogaster*
Bluntnose Minnow	*Pimephales notatus*
Bullhead Minnow	*Pimephales vigilax*
Flathead Chub	*Platygobio gracilis*
Sailfin Molly	*Poecilia latipinna*
Paddlefish	*Polyodon spathula*
White Crappie	*Pomoxis annularis*
Black Crappie	*Pomoxis nigromaculatus*
Flathead Catfish	*Pylodictis olivaris*
Pallid Sturgeon	*Scaphirhynchus albus*
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*
Creek Chub	*Semotilus atromaculatus*
Sauger	*Stizostedion canadense*

Finally, over 100 species of birds were either permanent or seasonal residents of the bottomland hardwood forests (Table 5). These included major game species such as the wood duck (*Aix sponsa*) and wild turkey (*Meleagris gallopavo*) (Gulf States Utilities Company 1974a, 1974b; Lowery 1974a, 1974b). Year-round species found throughout the vicinity of the project reach included the red-winged blackbird (*Agelaitus phoeniceus*), red-tailed hawk (*Buteo platypterus*), great egret (*Bubulcu ibis*), great blue heron (*Ardea herodias*) and great horned owl (*Bubo virginianus*). Numerous bird species, however, were spring, summer, and winter inhabitants of the vicinity of the proposed project reach. Species inhabiting the area during the spring and summer seasons included the barn swallow (*Hirundo rustica*) Mississippi kite (*Ictinia mississippiensis*), ruby-throated hummingbird (*Archilochus colubris*) and the reddish egret (*Egretta rufescens*). Species common throughout the winter included the sparrow (*Ammodramus* sp.), sandpipers (*Calidris* sp.), American bittern (*Botaurus lentiginosus*), and the common loon (*Gavia immer*).

Table 5. Birds in the Vicinity of the Project Reach.

COMMON NAME	SCIENTIFIC NAME
Winter Season	
Sharp-skinned Hawk	*Accipiter striatus*
Spotted Sandpiper	*Actitis macularia*
Western Grebe	*Aechmophorus occidentalis*
Henslow's Sparrow	*Ammodramus henslowii*
Le Conte's Sparrow	*Ammodramus leconteii*
Grasshopper sparrow	*Ammodramus savannarum*
Northern Pintail	*Anas acuta*
Northern Shoveler	*Anas clypeata*
American Wegeon	*Anas penelope*

Table 5, continued

COMMON NAME	SCIENTIFIC NAME
Mallard	*Anas platyrhynchos*
Gadwall	*Anas strepera*
American Pipit	*Anthus rubescens*
Ruddy Turnstone	*Arenaria interpres*
Short-eared Owl	*Asio flammeus*
Lesser Scaup	*Aythya affinia*
Redhead	*Aythya americana*
Ringed-neck Duck	*Aythya collaris*
Canvasback	*Aythya valisineria*
Cedar Waxwing	*Bombycilla cedrorum*
American Bittern	*Botaurus lentiginosus*
Canada Goose	*Branta canadensis*
Buffelhead	*Bucephala albeola*
Common Goldeneye	*Bucephala clangula*
Sanderling	*Calidris alba*
Dunlin	*Calidris alpina*
Red Knot	*Calidris canutus*
Western Sandpiper	*Calidris mauri*
Least Sandpiper	*Calidris minutilla*
Pine Sisken	*Carduelis pinus*
American Goldenfinch	*Carduelis tristis*
Purple Finch	*Carpodacus purpureus*
Hermit Thrush	*Catharus guttatus*
Brown Creeper	*Certhia americana*
Semipalmated Plover	*Charadrius semipalmatus*
Snow Goose	*Chen caerulescens*
Lark Sparrow	*Chondestes grammacus*
Northern Harrier	*Circus cyaneus*
Marsh Wren	*Cistothorus palustris*
Yellow Rail	*Coturnicops noveboracensis*
Double	*Crested Cormorant*
Yellow-rumped Warbler	*Dendroica coronata*
Gray Catbird	*Dumetella carolinensis*
Rusty Blackbird	*Euphagus carolinus*
Brewer's Blackbird	*Euphagus cyanocephalus*
Merlin	*Falco columbarius*
Peregrine Falcon	*Falco peregrinus*
Common Snipe	*Gallinago gallinago*
Common Loon	*Gavia immer*
Bald Eagle	*Haliaeetus leucocephalus*
Dark-eyed Junco	*Junco hyemalis*
Herring Gull	*Larus argentatus*
Ring-billed Gull	*Larus delawarensis*
Short-billed Dowitcher	*Limnodromus griseus*
Long-billed Dowitcher	*Limnodromus scolopaceus*
Marbled Godwit	*Limosa fedoa*
Hooded Merganser	*Lophodytes cucullatus*
Swamp Sparrow	*Melospiza georgiana*
Lincoln's Sparrow	*Melospiza lincolnii*
Song Sparrow	*Melospiza melodia*
Common Merganser	*Mergus merganser*
Black-and-white Warbler	*Mniotilta varia*
Whimbrel	*Numenius phaeopus*
Ruddy Duck	*Oxyura jamaicensis*
Savannah Sparrow	*Passerculus sandwichensis*
Fox Sparrow	*Passerella iliaca*
American White Pelican	*Pelecanus erythrorhynchos*
Eared Grebe	*Podiceps nigricollis*

Table 5, continued

COMMON NAME	SCIENTIFIC NAME
Vesper Sparrow	*Pooecetes gramineus*
Sora	*Porzana carolina*
Virginia Rail	*Rallus limicola*
Ruby-crowned Kinglet	*Regulus calendula*
Golden-crowned Kinglet	*Regulus satrapa*
Eastern Phoebe	*Sayornis phoebe*
Red-breasted Nuthatch	*Sitta canadensis*
Yellow-bellied Sapsucker	*Sphyrapicus varius*
Western Meadowlark	*Sturnella neglecta*
Green Winged	*Teal Anas crecca*
Bewick's Wren	*Thryomanes bewickii*
Lesser Yellowlegs	*Tringa flavipes*
Greater Yellowlegs	*Tringa melanoleuca*
House Wren	*Troglodytes troglodytes*
Oranged-crowned Warbler	*Vermivora celata*
Solitary Vireo	*Vireo solitarius*
White-throated Sparrow	*Zonotrichia albicollis*
White-crowned Sparrow	*Zonotrichia leucophrys*
Summer and Spring Seasons	
Purple Martin	*Progne subis*
Roseate Spoonbill	*Ajaia ajaia*
Anhinga	*Anhinga anhinga*
Ruby-throated Hummingbird	*Archilochus colubris*
Broad-winged Hawk	*Buteo platypterus*
Green-backed Heron	*Butorides striatus*
Chuck-will's-widow	*Caprimulgus carolinensis*
Chimney Swift	*Chaetura pelagica*
Wilson's Plover	*Charadrius wilsonia*
Common Nighthawk	*Chordeiles minor*
Yellow-billed Cookoo	*Coccyzus americanus*
Eastern Wood-Pewee	*Contopus virens*
Yellow-throated Warbler	*Dendroica dominica*
Reddish Egret	*Egretta rufescens*
American Swallow-tailed Kite	*Elanoides forficatus*
Acadian Flycatcher	*Empidonax virescens*
Blue Grosbeak	*Guiraca caerulea*
Black-necked Stilt	*Himantopus mexicanus*
Barn Swallow	*Hirundo rustica*
Wood Thrush	*Hylocichla mustelina*
Yellow-breated Chat	*Icteria virens*
Orchard Oriole	*Icterus spurius*
Mississippi Kite	*Ictinia mississippiensis*
Least Bittern	*Ixobrychus exilis*
Swainson's Warbler	*Limnothlypis swainsonii*
Wood Stork	*Mycteria americana*
Great Crested Flycatcher	*Myiarchus crinitus*
Kentucky Warbler	*Oporornis formosus*
Northern Parula	*Parula americana*
Painted Bunting	*Passerina ciris*
Indigo Bunting	*Passerina cyanea*
Summer Tanager	*Piranga rubra*
Glossy Ibis	*Plegadis falcinellus*
White-faced Ibis *Plegadis chihi*	*Plegadis falcinellus*
Purple Gallinule	*Porphyrula martinica*
Prothonotary Warbler	*Prononotaria citrea*
Dickcissel	*Spiza americana*
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*

Table 5, continued

COMMON NAME	SCIENTIFIC NAME
Least Tern	*Sterna antillarum*
Eastern Kingbird	*Tyrannus tyrannus*
Yellow-throated *Vireo*	*Vireo flavifrons*
Warbling Vireo	*Vireo gilvus*
Red-eyed Vireo	*Vireo olivaceus*
Hooded Warbler	*Wilsonia citrina*
Year Round Presence	
Anhinga	*Anhinga anhinga*
Coopers Hawk	*Accipiter cooperii*
Red-winged Blackbird	*Agelaius phoeniceus*
Bachman's Sparrow	*Aimophila aestivalis*
Wood Duck	*Aix sponsa*
Great Blue Heron	*Ardea herodias*
Great Horned Owl	*Bubo virginianus*
Cattle Egret	*Bubulcus ibis*
Red-tailed Hawk	*Buteo jamaicensis*
Red-shouldered Hawk	*Buteo platypterus*
Northern Cardinal	*Cardinalis cardinalis*
Great Egret	*Casmerodius albus*
Turkey Vulture	*Cathartes aura*
Willet	*Catoptrophorus semipalmatus*
Belted Kingfisher	*Ceryle alcyon*
Killdeer	*Charadrius vociferus*
Northern Flicker	*Colaptes auratus*
Northern Bobwhite	*Colinus virginianus*
Rock Dove	*Columbia livia*
Common Ground-Dove	*Columbina passerina*
Black Vulture	*Coragyps atratus*
Amerian Crow	*Corvus brachyrhynchos*
Fish Crow	*Corvus ossifragus*
Blue Jay	*Cyanocitta cristata*
Pine Warbler	*Dendroica pinus*
Pileated Woodpecker	*Dryocopus pileatus*
Little Blue Heron	*Egretta caerulea*
Snowey Egret	*Egretta Thula*
Horned Lark	*Eremophila alpestris*
White Ibis	*Eudocimus albus*
American Kestrel	*Falco sparverius*
American Coot	*Fulica americana*
Common Morehen	*Gallinula chloropus*
Common Yellowthroat	*Geothlypis trichas*
Loggerhead Shrike	*Lanius ludovicianus*
Laughing Gull	*Larus atricilla*
Red-bellied Woodpecker	*Melanerpes carolinus*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Wild Turkey	*Meleagris gallopavo*
Northern Mockingbird	*Mimus polyglottos*
Brown-headed Cowbird	*Molothrus ater*
Yellow-crowned Night-Heron	*Nyctanassa violacea*
Black-crowned Night-Heron	*Nycticorax nycticorax*
Eastern Screech-Owl	*Otus asio*
Tufted Titmouse	*Parus bicolor*
Carolina Chickadee	*Parus carolinensis*
House Sparrow	*Passer domesticus*
Red-cocaded Woodpecker	*Picoides borealis*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*
Rufous-sided Towhee	*Pipilo erythrophthalmus*

Table 5, continued

COMMON NAME	SCIENTIFIC NAME
Pied-billed Grebe	*Podilymbus podiceps*
Blue-gray Gnatcatcher	*Polioptila caerulea*
Great-tailed Grackle	*Quiscalus mexicanus*
Common Grackle	*Quiscalus quiscula*
King Rail	*Rallus elegans*
Clapper Rail	*Rallus longirostris*
American Woodcock	*Scolopax minor*
Eastern Bluebird	*Sialia sialis*
White-breasted Nuthatch	*Sitta carolinensis*
Brown-headed Nuthatch	*Sitta pusilla*
Chipping Sparrow	*Spizella passerina*
Field Sparrow	*Spizella pusilla*
Forster's Tern	*Sterna forsteri*
Gull-billed Tern	*Sterna nilotica*
Eastern Medowlark	*Sturnella magna*
European Starling (Introduced)	*Sturnus vulgaris*
Carolina Wren	*Thryothorus ludovicianus*
Brown Thrasher	*Toxostoma rufum*
American Robin	*Turdus migratorius*
Barn Owl	*Tyto alba*
White-eyed Vireo	*Vireo griseus*
Mourning Dove	*Zenaida macroura*

Climate in the Vicinity of the Proposed Project Reach

Iberville Parish, Louisiana, enjoys a humid subtropical climate. The mean annual temperature for the area attains a high of 78° F (26° C) and a low of 58° F (14° C). July and August are the hottest months, with average daily temperatures reaching 91° F (33° C). During winter, the mean daily minimum temperature declines to a low of 42° F (5.5° C) in January. Approximately 14 days of the year experience temperatures below 32° F (0° C). The winter is characterized by alternating cool and warm periods, as cold air fronts from Canada displace warmer air masses derived from the Gulf of Mexico.

Precipitation in Iberville Parish, Louisiana, averages 145.2 cm (57.2 in) annually and it is relatively evenly distributed throughout the year. During the cooler months, precipitation typically occurs as a result of movement along the periphery of cool and warm fronts and also as a result of cyclonic storms that originate over the Gulf of Mexico. In contrast, precipitation during the summer months occurs usually as a result of afternoon thunderstorms. October and November are the driest months of the year, with average precipitation rates measuring less than 10 cm (3.9 in) per month; July typically is the wettest

month, with an average of 8.6 cm (3.4 in) of rainfall. The average relative humidity throughout the parish measures approximately 75 percent. During the late fall, winter, and early spring months, however, humidity may drop to as low as 25 per cent, as cold air masses from Canada displace warm, moist air from the Gulf of Mexico.

CHAPTER III

PREHISTORIC SETTING

Introduction

This chapter briefly describes the prehistoric cultural setting of the proposed Bayou Sorrel Lock replacement project area in Iberville Parish, Louisiana. Iberville Parish is located within Management Unit V as defined by *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983).

While the prehistory of Management Unit V extends from ca. 10,000 B.C. to European Contact, i.e., from the Paleo-Indian to Protohistoric stages, the near surface landforms and deposits present within the project reach date from no earlier than 5,000 to 3,500 years ago. Consequently, and as outlined previously in Chapter II, only sites dating from the Late Archaic period or later are anticipated within the project area. Nonetheless, this chapter includes a discussion of the entire prehistoric period in order to provide the reader with a comprehensive account of the prehistoric cultural setting of Management Unit V; in addition, while it is unlikely that permanent habitation of the project region took place during the Paleo-Indian and Early to Middle Archaic periods, it is possible that the project area may have been used for occasional and/or temporary resource exploitation during those time periods.

A total of eight major cultural units are used to characterize the prehistoric cultural sequence of Management Unit V. These include: the Paleo-Indian (10,000 - 6000 B.C.), Archaic (6000 -1000 B.C.), Poverty Point (2000 - 500 B.C.), Tchefuncte (500 B.C. - A.D. 0), Marksville (100 B.C. - A.D. 400), Troyville-Coles Creek (A.D. 400 - 1200), Plaquemine (A.D. 1000 - 1200), and Mississippian (A.D. 1200 - 1700) units. Each cultural unit is described in turn below. Both the quantity and quality of the information currently known about each of these units are reflected in this discussion. Since some of these units are only poorly understood, pertinent data collected from throughout the Southeast have been utilized to supplement this discussion.

Paleo-Indian Stage (10,000 - 6000 B.C.)

The initial human occupation of the southeastern United States generally is believed to have occurred sometime between 10,000 and 12,000 years ago (8000 - 10,000 B.C.). The earliest inhabitants to occupy this region have been termed the Paleo-Indians. Archeological sites dating from this time period are characterized by a distinctive assemblage of lithic tools that include fluted and unfluted lanceolate projectile points/knives, unifacial end- and side-scrapers, gravers, and spokeshaves. In Louisiana, evidence of human occupation dating from this time period largely has been confined to the upland areas (tertiary uplands or floodplain bluffs) in the northwestern part of the state. Furthermore, it is unlikely that Paleo-Indians occupied the project area since habitable landforms did not exist in the project reach during this time. As a result, the probability of identifying evidence of Paleo-Indian occupation within the confines of the current project items is extremely low.

The earliest Paleo-Indian culture identified in North America has been named "Clovis," after the type-site in New Mexico. In the western United States, Clovis sites date from a relatively narrow period, i.e., between 8900 and 9500 B.C. (Haynes 1991; Story et al. 1990:178). The lithic tool assemblage of the Clovis Culture, and the

similar Folsom Culture of the Great Plains and Southern Plains, generally is referred to as the Llano complex. While the Folsom Culture initially was believed to postdate the Clovis Culture, radiocarbon dates from Folsom component sites in Texas have produced dates ranging from ca. 8000 to 9000 B.C. (Largent et al. 1991:323-332; Story et al. 1990:189). These dates suggest that the Folsom Culture may be partially contemporaneous with Clovis Culture.

Paleo-Indian peoples are considered by some researchers to have been mobile hunter-gatherers organized in small bands or extended family groups. Many models suggest that Paleo-Indian peoples were specialized big game (megafauna) hunters. This interpretation, however, has been modified as additional data have been recovered from excavations at newly identified Paleo-Indian sites. While sufficient evidence exists to document the exploitation of large mammals (e.g., mammoth, mastodon, bison, caribou, and elk) at sites in the western and northern United States, kill sites in the Southeast are rare. One exception is the Coats-Hines Site (40WM31), located in the Central Basin of Tennessee. Recent excavations at Coats-Hines (Breitburg and Broster 1995) produced 34 lithic tools, including 10 formal tools and tool fragments along with resharpening flakes, recovered in direct association with the articulated remains of an adult mastodon (*Mammut americanum*). All of this lithic material originated from within the thoracic cavity of the mastodon or in its immediate vicinity. The association of these tools with the skeletal material, along with the presence of distinct butchering marks on a number of the mastodon bones, indicates that Paleo-Indian peoples were butchering the mastodon at the site.

The co-occurrence of Pleistocene megafauna and several Paleo-Indian projectile points (see Brush and Smith 1994; Clausen et al. 1979; Webb et al. 1984) has led most researchers to accept the interpretation that southeastern Paleo-Indian peoples fulfilled at least a portion of their subsistence requirements by hunting and/or scavenging megafauna, including bison, mammoth and mastodon, that were present on the North American continent at the end of the Pleistocene (Anderson et al. 1996). Data such as those derived from the Coats-Hines Site provide unequivocal evidence that Paleo-Indian groups in the Southeast consumed certain Pleistocene megafauna. Current discussions among archeologists, however, have focused on the relative amount of food that these animals provided to the Paleo-Indian groups.

Some researchers (e.g., Meltzer and Smith 1986; Smith 1986) suggest that Pleistocene megafauna comprised only a small portion of the subsistence regime for Paleo-Indian peoples; others argue that megafauna provided a substantial portion of the Paleo-Indian diet (Anderson 1995; Anderson et al. 1996). Anderson (1995:151), for example, stated that "modern fauna (i.e., deer and smaller mammalian species like rabbits, raccoons, opossums, etc.) were taken only when megafauna were not readily available, and comprised second-line resources." It is likely that until more associations of Pleistocene megafauna and Paleo-Indian cultural materials and features are identified, that the role these megafauna played in the Paleo-Indian diet will not be understood clearly. Although there is little data upon which to base a firm dietary model, Paleo-Indian subsistence throughout the Southeast is believed to have encompassed a broad spectrum of resources, including fish, fowl, deer, small mammals, nuts, and gathered plants, as well as megafauna (Smith 1986:9-10; Steponaitis 1986:369; Walthall 1980:36).

Most of the archeological evidence associated with the Paleo-Indian occupation of the southeastern region is limited to surface finds of diagnostic projectile points/knives (Mason 1962). In the Lower Mississippi Valley, Paleo-Indian projectile points/knives have been recovered along valley margins but rarely in the alluvial valley or along the coastal plain. Distributional studies indicate that Paleo-Indian sites in the eastern United States tend to be located on eroded terrace and plateau surfaces (Walthall 1980).

The presence of Paleo-Indian peoples in the Lower Mississippi Valley is best documented from Maçon Ridge in northeast Louisiana. Hillman (1985) provided a prehistoric overview of the Paleo-Indian stage at Maçon Ridge that suggested that continuous human occupation of the ridge began sometime around 8000 B.C. Diagnostic projectile points/knives identified at Maçon Ridge date from the Early Paleo-Indian period (Clovis, Sandia II, and unfluted lanceolate points), the Middle Paleo-Indian period (Plain-

view, Scottsbluff, Quad, Hell Gap, and Pelican), and the later, transitional, "Epipaleoindian" period (Dalton, Hardin, and San Patrice projectile points). The latter period, i.e., the Epipaleoindian, originally was used by Gibson (1982) to discuss the transitional period between the Late Paleo-Indian and Early Archaic periods.

The distribution of recorded sites on Maçon Ridge suggests that this area was occupied more intensively during the Late Paleo-Indian period. Sites dating from the Late Paleo-Indian period, like hunting camps and base camps, typically occur very close to streams, ponds, or sloughs, and on landforms that generally are no more than 1 m (3.3 ft) above the water source. This pattern may indicate a preference for the wooded fringes along the waterways rather than open grasslands. In contrast, Early Archaic period sites usually occur on higher elevations; this shift may reflect a transformation in the natural setting of Maçon Ridge from an open grassland to an open woodland (Hillman 1990).

Brain (1983) states that Paleo-Indian projectile points/knives have been recovered along some of the relict channels of the Mississippi River and from remnant Pleistocene surfaces in the floodplain that pre-date ca. 7000 B.C. In Louisiana, Paleo-Indian sites generally are found along Tertiary upland ridges and uplands/ floodplain bluffs (Guy and Gunn 1983). Projectile points/knives such as Clovis, Folsom, Scottsbluff, and Plainview have been recovered from these sites. Although the majority of these projectile points/knives have been found in northern Louisiana, a few have been found on late Pleistocene age Prairie Terrace deposits in southern Louisiana.

Louisiana's Comprehensive Archaeological Plan (1983) indicates that no Paleo-Indian sites thus far have been recorded in Iberville Parish. This is not surprising given the erratic nature of Mississippi River meandering. Paleo-Indian sites may once have existed within this parish, but they probably have been destroyed by river scouring or deeply buried by alluvial deposition.

Archaic Stage (6000 - 1000 B.C.)

The term "Archaic" first was coined as a descriptor for the pre-ceramic cultures that succeeded the Paleo-Indian stage. A new combination of technological and social developments is associated with the beginning of this stage. These developments are believed to have resulted from a warming trend, a drier climate, and a rise in sea level that occurred at the end of the Pleistocene Epoch (Willey and Phillips 1958). These changes have been correlated with the development of highly diverse and localized resource and food procurement strategies (Haag 1971). Caldwell (1958), for example, described the new hunting and gathering specializations of the Archaic stage as "maximum forest efficiency." Brain (1971) modified this phrase to "maximum riverine efficiency" in reference to the exploitation of southeastern riverine and coastal environments during this time period.

Current data suggest that Archaic stage peoples moved on a seasonal basis within more restricted ranges to exploit nuts, fruits, fish, game, shellfish, and other natural resources (Muller 1978). Muller suggested that Archaic societies were characterized by a macro/micro band system of organization in order to maximize the exploitation of these resources. Under the macro/micro band model, macrobands coalesced during the spring and summer months, while microbands splintered off and exploited the upland ranges during winter (Muller 1978). Archeological data also indicate that Archaic stage populations exploited a greater variety of terrestrial and marine species than their Paleo-Indian predecessors. Archeological evidence also suggests that Archaic stage peoples developed the first semi-permanent settlements yet identified in the archeological record (Neitzel and Perry 1977). Finally, the increased number of sites dating from the Archaic stage indicates a probable increase in population throughout the Southeast.

The Paleo-Indian to Archaic stage transition was accompanied by a change in projectile point/knife morphology. These changes included the emergence of a wide variety of notched and stemmed projectile point/knife forms and the disappearance of the fluted projectile point/knife type. Nevertheless, archeological evidence suggests that there was some continuity between the adaptations of the Paleo-Indian and the later Archaic peoples who occupied the Southeast (Smith 1986). Archaic stage projectile point/knife sequences follow a general trend in haft morphology that progresses from side notched to corner notched to stemmed basal forms. Other Archaic

stage flaked stone artifact types included adzes, scrapers, and choppers. During the latter half of this time period, granitic rock, chert, jasper, sandstone, slate, steatite, and scoria were ground and polished into a variety of stone ornaments and tools, which included beads, gorgets, bowls, and celts/axes.

The Archaic stage generally is divided into three subdivisions or periods: Early Archaic, Middle Archaic, and Late Archaic. Each of these periods is discussed below.

Early Archaic Period

In the Southeast, the Early Archaic period generally begins ca. 6000 - 8000 B.C. Because of regional cultural variation and the temporal overlapping of stages, however, a number of researchers view cultural developments in the early portion of this period as transitional in nature between the Late Paleo-Indian and Early Archaic cultures. As mentioned above, Gibson (1982) used the term "Epipaleoindian" to describe this transition. Hillman (1985) included the Dalton, Hardin, and San Patrice projectile point/knife types in his review of the transitional period at Maçon Ridge. Dalton projectile points/knives temporally succeeded Clovis projectile points/knives and they have been dated between 8550 - 7950 B.C. from contexts in both Arkansas and Missouri (Goodyear 1982:328). At the Stanfield-Worley Bluff Shelter (1CT125) in northwestern Alabama, the Dalton component dated from ca. 7750 - 7050 B.C. (DeJarnette et al. 1962; Griffin 1974). Dalton projectile points/knives dating from 6700 to 6450 B.C. also have been recovered in association with Kirk Notched, LeCroy, Rice Stemmed, and Graham Cave projectile points/knives in Horizon 11 at the Koster Site (11GE4) in southern Illinois. This date range suggests that Dalton projectile points/knives may extend later in time than initially was assumed.

Dalton projectile points/knives also have been recovered in association with bifacially chipped stone adzes that may have been used as woodworking tools. Chipped and ground stone celts, probably the functional equivalent of Dalton adzes, have been recovered from the Kirk Horizon in Zone 16 at the St. Albans Site (46WV27) in West Virginia and from Early Archaic sites in the Little Tennessee River Valley (Smith 1986:14). In Louisiana, artifacts associated with the Dalton Culture usually are restricted to the northern portion of the state.

Some of the earliest recognized Terminal Paleo-Indian/Early Archaic projectile point/knife types identified in Louisiana are the San Patrice, Keithville, and Pelican forms (Webb et al. 1971). San Patrice projectile points/knives originally were ascribed to an area encompassing northwest Louisiana, northeast Texas, and southern Arkansas. More recently, however, San Patrice projectile points/knives have been recovered from sites ranging from central Texas to southwest Alabama, and from southern Louisiana to central Arkansas (Brain 1983:32; Cantley et al. 1984).

The San Patrice Culture is believed to represent a regional adaptation of hunter-gatherers to the natural resources of the area. A hallmark of San Patrice is the almost exclusive use of local lithic materials for tool production. Tool assemblages include San Patrice *var. Hope* and St. John projectile points/knives, hafted scrapers, Albany side-scrapers, unifacial scrapers, burins, and engravers (Webb et al. 1971). Recently, Keithville *var. A* and *B*, San Patrice *var. Geneill*, and New River projectile point/knife types also have been recognized in this assemblage (Brain 1983). Unfortunately, reliable radiocarbon dates for these types virtually are non-existent. Estimates based on tool morphology and stratigraphic position, however, range from ca. 8050 to 6050 B.C. (Brain 1983:25; Story et al. 1990:202; Turner and Hester 1985:147; Webb 1981). While Ensor (1986) suggested that the San Patrice projectile point/knife type, and related forms in the Southeast, may have developed from the earlier Dalton projectile point/knife forms, Story et al. (1990:197) argued that both Dalton and San Patrice types evolved from the earlier fluted point traditions.

Subsistence strategies associated with the Early Archaic period probably resembled those of the preceding Paleo-Indian stage. Early Archaic peoples probably traveled seasonally in small groups between a series of base camps and extractive sites, hunting game and collecting seasonally available edible plants (Chapman and Shea 1981; Lentz 1986; Parmalee 1962; Parmalee et al. 1976). The earliest examples of tools associated with food processing, including manos, milling stones, and nutting stones, have been recovered from Early Archaic period sites. Com-

monly utilized plant foods, such as walnuts, hickory nuts, and white oak acorns, could be hulled and eaten without cooking or additional processing (Larson 1980). Herbaceous seeds, which became an important food source later in the Archaic stage, generally were not utilized during the early Archaic period (Chapman 1977; Lentz 1986). While living floors associated with hearths, shallow pit features, and milling tools are known from the Early and Middle Archaic periods, there is little evidence of subterranean food storage or of substantial dwelling structures (Steponaitis 1986:371).

Much of our knowledge regarding early prehistoric lifeways is limited by deficiencies related to preservation. Lithic tools often are the only surviving artifacts, and they provide only limited information about a narrow range of activities (e.g., manufacture and maintenance of tools, the processing of meat and hides, and the working of wood and bone). Although rarely preserved in the archeological record, clothing, baskets, and other artifacts made from perishable materials such as bone, wood, antler, shell, hair, hide, plant fiber, or feathers undoubtedly were an important part of the Archaic cultural tradition. Impressions of woven mats and net bags preserved in fired clay hearths from Kirk strata at the Icehouse Bottom Site (40MR23) in Tennessee provide a rare insight into the richness of the Early Archaic period material culture (Chapman and Adavasio 1977).

The Early Archaic cultures immediately preceding San Patrice are understood only poorly in Louisiana. To date, diagnostic projectile points/knives dating from the Early Archaic period, including Cache River, Calf Creek, Kirk, and Palmer, have been recovered largely from questionable contexts, and only in limited numbers. In the larger region, however, several Early Archaic period sites have been identified. One such site, the Claiborne Site (22HA501) located in Hancock County, Mississippi, has produced Early Archaic projectile points/knives including Morrow Mountain and Kirk types (Bruseth 1991). Although Site 22HA501 primarily is known for its Poverty Point affiliation, Greenwell (1984:133) reportedly recovered "a large variety of 'unspecified' Paleo-Indian - Archaic transition and Archaic points . . ." from a singe stratum located beneath cultural features dating from the later Poverty Point occupation. Additional work at this site by Bruseth (1991) also produced Kirk and Morrow Mountain projectile points/knives. Finally, work by Gagliano (1963:12) at "preceramic" sites in southern Louisiana and Mississippi found that Kirk Serrated projectile points/knives were not uncommon in the southeastern portion of the state.

Middle Archaic Period

During the Middle Archaic period, new social developments, possibly resulting from widespread environmental changes, affected the trajectory of prehistoric cultures. First, the effects of continental glaciation subsided, resulting in a warmer and drier climate with modern climatic and environmental conditions prevailing. Second, technological improvements, including the use of groundstone, bone, and antler implements, may have been related to adaptations to the changing environment. And finally, in some areas, there is evidence of an increased number of ranked societies.

The Middle Archaic period in the Southeast is marked by several technological advances and by changes in subsistence patterns. Temporally diagnostic Middle Archaic projectile points tend to be stemmed rather than notched. In Louisiana, they include Morrow Mountain, Johnson, Edgewood, and possibly Calcasieu types (Campbell et al. 1990:96; Green 1991; Perino 1985:195). Excavations at Site 16VN791 in Vernon Parish, in western Louisiana, produced evidence of a long tradition of corner notched projectile points/knives beginning in the late Middle Archaic period. It has been suggested that these points, and others in the region, were derived from types indigenous to central Louisiana (Campbell et al. 1990). Other technological innovations include the appearance of ground, pecked, and polished stone tools, as well as the use of celts and grooved axes for heavy woodworking, such as dugout canoe manufacture. The *atl atl*, or spear thrower, also first appeared during the Middle Archaic period.

The widespread occurrence of plant processing tools such as milling slabs, manos, and nutting stones, suggests an increase in the utilization of plant foods. Comparisons of floral and faunal assemblages recovered from Early and Middle Archaic period sites, however, indicate little change in the diversity or relative importance of the species utilized. The Middle Archaic period

rough milling tools used in plant processing all have Early Archaic antecedents (Smith 1986:21).

Acorns and hickory nuts continued to be the dominant plant foods consumed during the Middle Archaic period. The remains of *Cucurbita pepo* (squash) and bottle gourds (*Lagenaria siceraria*), however, appear for the first time during the Middle Archaic. The earliest occurrence of the bottle gourd was reported from the Windover Site (8BR246) in Florida and it dated from 5340 ± 120 B.C. (Doran et al. 1990). "Squash" rinds dating from 5050 B.C. were recovered from the Napoleon Hollow and Koster sites in west-central Illinois. Although initially identified as the cultivar *C. pepo*, these remains are now thought to consist of the Texas wild gourd, *C. texana*, rather than cultivated squash. Although the seeds of these plants are edible, it appears that their rinds were thin, woody, and inedible; the gourds probably were collected primarily for use as containers rather than as sources of protein. Stronger evidence for the domestication of squash gourds occurs after 2350 B.C. (Smith 1987).

A significant increase in the utilization of fish and shellfish also occurred in many areas during the Middle Archaic period. The increasing importance of aquatic resources can be seen in the development of extensive shell middens found along many southeastern rivers. Shell middens first appeared between 4550 and 4050 B.C. during the Hypsithermal climatic episode. At that time, rivers entered a phase of aggradation and low flow that promoted the development of oxbow lakes and shallow water shoals. These habitats were favorable for mollusk growth and shellfish collection (Stein 1982). Although the food value of mollusks is low, they can be collected efficiently in bulk and they appear to have formed the foundation of the subsistence base for many semi-sedentary Archaic stage groups that resided in the southeastern United States (Russo et al. 1992).

Extensive, deep shell midden sites presumably represent locations that seasonally were reoccupied by small social groups with band-type sociopolitical organization. Excavation at other site types likewise suggests the seasonal reoccupation of areas by Middle Archaic period peoples. Large cemeteries at some Middle Archaic period sites, such as Carleston Annis (15BT5) in Kentucky, as well as Windover (8BR246) and Little Salt Spring (8SO18) in Florida, included interments established over long periods of time by groups seasonally returning to those locations (Clausen et al. 1979; Milanich 1994). These patterns may have resulted from increasing population levels during the Middle Archaic that may have led to more circumscribed territories. This is indicated by the repeated occupation of favored locations, the development of thick shell middens, and the increased emphasis on locally available raw materials utilized in stone tool production.

Evidence for social stratification during the Middle Archaic was recovered at the Indian Knoll Site (15OH2) in Kentucky (Webb 1946), in the form of grave goods being recovered in association with a child's burial. Because status in egalitarian societies usually was acquired rather than inherited, and because buried children probably did not live long enough to acquire much status, exotic grave objects associated with child burials are seen as one of the earliest indications of inherited social rank.

Late Archaic Period

The Late Archaic represents a time of population growth as demonstrated by an increased number of sites dating from this time period in the eastern United States. Hallmarks of the Late Archaic period include the introduction of steatite stone vessels, fiber-tempered pottery, and groundstone artifacts. Each of these artifact classes has been recovered from Late Archaic period sites throughout the Southeast. In Louisiana, projectile point/knife types dating from this time period include both corner notched and stemmed forms.

Throughout the eastern United States, Late Archaic subsistence strategies focused on a few wild resources, including deer, mussels, fish, and nuts. Jenkins (1979) recognized a seasonal procurement strategy in Middle Tennessee dating from the Late Archaic period. In the spring, macrobands formed to exploit forested riverine areas. In late fall and winter, however, the Late Archaic groups fissioned into microbands and subsisted on harvested and stored nut foods and on faunal species commonly found in the upland areas. A similar seasonal procurement strategy may have existed in Louisiana.

Late Archaic period projectile point/knife types are commonly found throughout Louisiana. Very few discrete and intact archeological deposits dating from this time period, however, have been excavated systematically, analyzed, and comprehensively reported (Neuman 1984). Late Archaic sites in the west-central and northern parts of the state that have been studied systematically have produced projectile point/knife types that include Bulverde, Carrollton, Delhi, Ellis, Ensor, Epps, Gary, Kent, Macon, Marcos, Palmillas, Pontchartrain, Sinner, and Yarbrough types. Groundstone objects recovered from these sites include celts/axes, plummets, and steatite bowl fragments (Campbell et al. 1990; Smith 1975; Jeter et al. 1989). In addition, there is evidence for widespread trade in shell, copper, slate, greenstone, and jasper ornaments, including carved stone zoomorphic locust beads, during Late Archaic times (Blitz 1993; Brose 1979; Smith 1986:31; Steponaitis 1986:374).

Mounds appear for the first time in the Late Archaic some time before 2000 B.C. (Gibson and Shenkel 1988:9-10). Saunders et al. (1992) believe that mounds constructed during this time period are datable based on the age of the landforms, the eluviation of fill clays from the A and E horizons to the Bt Horizon, and a lack of post Archaic stage artifacts. Currently, only four possibly Late Archaic mounds or mound complexes have been identified in northern Louisiana (Saunders et al. 1992). These include the Hedgepeth Mounds (Site 16LI7), the Watson Brake Mounds (Site 16OU175), the Frenchman's Bend Mounds (Site 16OU259), and Hillman's Mound (Site 16MA201).

More recently, Saunders (1994, 1996) hypothesized that mound building began as early as the Middle Archaic period. The Watson Brake Mound Site (16OU175), located near Monroe, Louisiana was identified by Northeast Louisiana University student Reca Jones in the 1970s. The site was described as circular in configuration with a diameter of approximately 275 m (900 ft); it encompassed 11 separate mounds, with each mound measuring between 1 and 6 m (3 and 20 ft) in height. Well preserved food remains recovered from the site, indicate that the Watson Brake mound group was occupied seasonally for fishing purposes. Recent research by Saunders strongly suggests that the earthworks on the Watson Brake Site are older than previously suspected, and that the mounds were constructed approximately 5,400 years ago. If this date is accurate, the mounds at the Watson Brake Site would represent the earliest example of a prehistoric earthwork in North America. This recent discovery contradicts the assumption that Middle Archaic hunting and gathering societies could not achieve the level of social organization necessary for the construction of the earthen mounds.

Poverty Point Culture (2000 - 500 B.C.)

Poverty Point represents a transitional culture that originated as early as ca. 2000 B.C., but it did not exert its full influence until much later (Neuman 1984). It is best known for exhibiting several fundamental and distinguishing characteristics of a complex society, including massive public architecture and long distance trade, while still maintaining a hunting and foraging economy. The Poverty Point type site (16WC5) is located adjacent to Bayou Maçon and near several major rivers, including the Mississippi, Tensas, Ouachita, and Boeuf, in West Carroll Parish, Louisiana. This riverine location was ideal for exploiting the flow of trade goods from other regions (Jeter and Jackson 1990:142; Muller 1978; Neitzel and Perry 1977). Evidence for long distance trade recovered at Poverty Point includes ceramics similar to those collected from the St. Johns River region of Florida, and lithic materials from deposits in Arkansas, Illinois, Indiana, Missouri, Ohio, Oklahoma, and Tennessee (Connaway et al. 1977:106-119; Gibson 1974:26, 1979, 1994; Jeter and Jackson 1990; Lehmann 1982:11-18; Webb 1982:13-14). These data suggest that Poverty Point Culture may represent the first chiefdom-level society to develop in the eastern United States (Gibson 1985a; Muller 1978).

The Poverty Point type site (16WC5) is distinguished primarily by its large earthworks and its complex microlithic industry. The earthwork includes six, 15 to 46 m (50 to 150 ft) wide, segmented ridges that formed five sides of an octagon, and several other mounds scattered throughout the site area. The largest mound, Mound A, resembles a bird, and this mound may represent a large-scale earthen effigy (Webb 1982). At the time of its construction, Poverty Point was the largest mound site in the Americas.

The material culture associated with the Poverty Point Culture is quite distinctive. Typical Poverty Point Culture projectile points include Carrollton, Delhi, Epps, Gary, Kent, Motley, and Pontchartrain types (Smith et al. 1983:152; Webb 1982:22, 47). Although these point types were in use during the Archaic stage, they also were manufactured during Poverty Point times (Gibson 1994). Other artifacts associated with the Poverty Point Culture include *atl atl* weights, plummets, two hole gorgets, red jasper beads and owl pendants, Jaketown perforators, finger-impressed baked clay cooking balls, clay figurines and fetishes, thin micro flints/blades, and food storage and preparation containers (Webb 1982). Container types included sandstone and steatite vessels, basketry, and ceramic vessels. Most ceramic vessels were sand tempered, although a minority contained grit, clay, or fiber temper or no temper at all. Webb (1982) also reported the recovery of seed processing implements, stone hoes, nutting stones, and milling stones from Poverty Point sites.

While Brain (1971) argued that Poverty Point sites tended to be located in the bottomlands, Webb (1982) suggested that they occurred across four different landform types. These included: (1) Quaternary terraces or older land forms that overlook major stream courses; (2) major river levees of active or relict river channels; (3) river-lake confluences; and (4) coastal estuaries or older land form located within a coastal marsh area. These areas were ideal for exploiting forest-edge resources and for transporting exotic materials. Sites on these landforms ranged in size from large ceremonial centers to small hamlets or foraging stations. According to Smith et al. (1983:96), only four Poverty Point Culture sites have been recorded in Management Unit V; two of theses sites have been identified in Iberville Parish.

Woodland Stage (1000 B.C. - A.D. 1100)

The emergence of the Woodland stage in Louisiana prehistory was characterized by a combination of the introduction of horticulture, the initial use of the bow and arrow, and the widespread adoption of ceramic containers. The Woodland stage includes three divisions or periods: Early Woodland, Middle Woodland, and Late Woodland. In Louisiana, the Early Woodland period (ca. 500 B.C - A.D. 0) is represented by the Tchefuncte Culture, the Middle Woodland period (ca. 100 B.C. - A.D. 400) is associated with the Marksville Culture and to a lessor extent with the Troyville Culture, and the Late Woodland period (ca. A.D. 400 - 1200) originated with the Troyville Culture, but later was dominated by the Coles Creek Culture. A discussion of each of these cultures is presented below.

Tchefuncte Culture (500 B.C. - A.D. 0)

While the Tchefuncte Culture is characterized by the first widespread use of pottery, its tool inventory otherwise resembled that of a Late Archaic period hunter-gatherer tradition (Byrd 1994; Neuman 1984; Shenkel 1981:23). The Tchefuncte Culture first was identified at the type site (16ST1) located on the north shore of Lake Pontchartrain in St. Tammany Parish, Louisiana (Ford and Quimby 1945; Weinstein and Rivet 1978). Later, the Tchefuncte Culture was defined by Ford and Quimby (1945) based on Works Progress Administration (WPA) excavations at Big Oak Island (16OR6) and the Little Woods Site (16OR15) in Orleans Parish during the 1930s and 1940s. While the Tchefuncte Culture initially was thought to represent a local adaptation by an indigenous population in the southern Louisiana coastal region (Ford and Quimby 1945), Tchefuncte or Tchefuncte-like ceramics have been recovered from southeast Missouri, northwest Mississippi, the Yazoo Basin, coastal Alabama, and east Texas (Brookes and Taylor 1986:23-27; Mainfort 1986:54; Neuman 1984; Webb et al. 1969:32-35; Weinstein 1986:102).

A date range from ca. 500 B.C. - A.D. 100 generally has been accepted for the Tchefuncte Culture; however, recent research indicates that dates for the Tchefuncte Culture differ widely from region to region and occasionally even within the same area (Byrd 1994; Gibson 1976a, 1976b:13; Webb et al. 1969:96; Weinstein 1986). Most archeologists agree that the Tchefuncte Culture dates from as early as 700 B.C. in the south, that it diffused to the north where it is known as the Tchula Culture, and that it terminated around A.D. 100 (Gibson and Shenkel 1988:14; Perrault

and Weinstein 1994:48-49; Shenkel 1974:47; Toth 1988:19). Recent evidence suggests that coastal Tchefuncte sites may have survived until ca. A.D. 300 (Byrd 1994:23; Neuman 1984:135). These dates suggest that the last remaining coastal Tchefuncte communities were coeval with sites associated with the late Marksville Culture (Toth 1988:27-28).

Tchefuncte/Tchula ceramics usually are characterized by a soft, chalky paste, and a laminated appearance in cross-section. They were fired at low temperatures and they were tempered either with sand or clay (Phillips 1970). Vessel forms consisted of bowls, cylindrical and shouldered jars, and globular pots that sometimes exhibited podal supports. While many vessels were plain, some were decorated with punctations, incisions, simple stamping, drag and jab, and rocker stamping. Punctated types usually were more numerous than the stamped types, but parallel and zoned banding, stippled triangles, chevrons, and nested diamonds also occur. During the later part of this period, red filming also was used to decorate some vessels (Perrault and Weinstein 1994:46-47; Phillips 1970; Speaker et al. 1986:38). Tchefuncte/Tchula ceramic types included Alexander Incised, Wheeler Simple Stamped, Wheeler Punctated, Jaketown Simple Stamped, three Tchefuncte types (Plain, Stamped, and Incised), and Lake Borgne Incised (Ford et al. 1955). In addition, Ford et al. (1955) identified a variety of fiber-tempered and fiber impressed ceramic types.

For the most part, the stone and bone tool assemblages characteristic of the Tchefuncte Culture remained nearly unchanged from the preceding Poverty Point times. Stone tools included boat stones, grooved plummets, chipped celts, and sandstone saws; bone tools included awls, fish hooks, socketed antler points, and ornaments. In addition, containers, punches, ornamental artifacts, and some tools such as chisels, were manufactured from shell. Projectile point/knife types characteristic of Tchefuncte Culture include Gary, Ellis, Delhi, Motley, Pontchartrain, Macon, and Epps types (Ford and Quimby 1945; Smith et al. 1983:163). Bone and antler artifacts, such as points, hooks, awls, and handles, also became increasingly common during this period.

Interior Tchefuncte/Tchula sites generally are classified as villages or hamlets, although shell middens also have been identified. Settlement usually occurred along the slack water environments of slow, secondary streams that drained bottomlands and floodplain lakes (Neuman 1984; Toth 1988:21-23). Both burials and artifacts recovered at Tchefuncte period sites suggest an egalitarian social organization. Tchefuncte/Tchula peoples probably were organized at the band level, with as many as 25 to 50 individuals per band. The widespread distribution of similar ceramic types and motifs may imply a patrilocal residence pattern with exogamous band marriage arrangements (Speaker et al. 1986:39). Social organization probably remained focused within macrobands, and hunting, collecting, and fishing remained integral to the Tchefuncte/Tchula way of life.

Data recovered from Tchefuncte sites document the wide variety of food resources utilized during the period. Faunal remains recovered from these sites include deer, opossum, muskrat, raccoon, otter, bear, fox, dog, ocelot, wildcat, alligator, bird, fish, shellfish, and turtle (both aquatic and terrestrial). Recovered plant remains (all non-domesticated) include squash, gourds, plums, nuts, grapes, and persimmons (Neuman 1984; Smith et al. 1983). Neuman (1984) noted that the remains of crustaceans such as crabs, shrimp, and crawfish do not appear within Tchefuncte/Tchula middens.

According to Smith et al. (1983:96), only 22 Tchefuncte Culture sites have been documented in Management Unit V. Of these 22 sites, the majority of them (n=17 [77 percent]) are located in Jefferson and Orleans Parishes. Only one Tchefuncte Culture site has been recorded in Iberville Parish, Louisiana.

Marksville Culture (100 B.C. - A.D. 400)

The Marksville Culture, named for the Marksville Site (16AV1) in Avoyelles Parish, Louisiana, often is viewed as a local manifestation of the midwestern Hopewellian Culture, which extended down the Mississippi River from Illinois (Toth 1988:29-73). Complex geometric earthworks, conical burial mounds for elites, and unique mortuary ritual systems indicate a highly organized social structure during Marksville times. Some items, such as elaborately decorated ceramics, were manufactured primarily as mortuary objects. Burial items included pearl beads,

carved stone effigy pipes, copper ear spools, copper tubes, galena beads, and carved coal objects. Hopewellian influences declined and mortuary practices became less complex, however, toward the end of the Marksville period (Smith et al. 1983; Speaker et al. 1986).

Ceramic decorative motifs such as cross-hatching, U-shaped incised lines, zoned dentate rocker stamping, cord-wrapped stick impressions, stylized birds, and bisected circles were shared by potters in the Marksville and Hopewell Cultures (Toth 1988:45-50). Other Marksville traits include a stone tool assemblage of knives, scrapers, celts, drills, ground stone *atl atl* weights, plummets, medium to large stemmed projectile points, bone awls and fishhooks, and baked clay balls. In addition, a variety of non-local artifacts commonly found at Marksville sites suggests the existence of extensive trade networks and possibly a ranked, non-egalitarian society. Some commonly recovered items include imported copper earspools, panpipes, platform pipes, figurines, and beads (Neuman 1984; Toth 1988:50-73).

Little currently is known about Marksville subsistence. Presumably, Marksville peoples employed a hunting, fishing, and gathering subsistence strategy much like those associated with earlier periods. Oily seeds, such as marshelder (*Iva annua*), sunflower (*Helianthus annus*), and squash (*Cucurbita pepo*), and starchy seeds, such as goosefoot (*Chenopodium* sp.), maygrass (*Phalaris caroliniana*), knotweed (*Polygonum* sp.), and little barley (*Horduem pusillum*), also were consumed (Fritz and Kidder 1993:7; Smith 1986:51). At the Reno Brake Site (16TE93) in Tensas Parish, Kidder and Fritz (1993) recovered the remains of deer, squirrel, rabbit, bird, and fish, as well as acorns, persimmon, palmetto, grapes, blackberries, and very minor amounts of *Chenopodium* and marshelder. Although maize has been identified and dated from Middle Woodland contexts at sites in Tennessee and Ohio (Ford 1987), it probably was not important in Louisiana until Mississippian times (Fritz and Kidder 1993:7, 294; Smith 1986:50-51).

A total of 23 Marksville Culture sites have been recorded in Management Unit V. Only two of those sites, however, have been documented in Iberville Parish (Smith et al. 1983:46).

Troyville-Coles Creek Period (ca. A.D. 400 - 1200)

Troyville Culture, elsewhere described as Baytown, was named after the Troyville mound group (16CT7) in Jonesville, Catahoula Parish, Louisiana. It represents a transition from the Middle to Late Woodland period that culminated in the Coles Creek Culture (Gibson 1984). Though distinct, Troyville and Coles Creek cultures are sufficiently similar that many researchers interpret them as a single prehistoric cultural unit. According to Neuman (1984:169), 23 C^{14} dates from 14 Troyville sites in Louisiana place the beginning of the period at approximately A.D. 395. Continuing developments in agriculture and the technological refinement of the bow and arrow during this time period (reflected by the appearance of Alba, Catahoula, Friley, Hayes, and Livermore projectile point types), radically altered prehistoric life. During the Troyville cultural period, bean (*Phaseolus vulgaris*) and squash agriculture may have became widespread. This shift in subsistence practices probably initiated the development of more complex settlement patterns and social organization.

The Late Woodland Coles Creek Culture emerged from the Troyville Culture around A.D. 750, and it represented an era of considerable economic and social change in the Lower Mississippi Valley. By the end of the Coles Creek period, communities were larger and more socially and politically complex. Large-scale mound construction occurred and there is evidence for the resumption of long-distance trade on a scale not seen since Poverty Point times. These changes imply chiefdoms were reemerging in the Lower Mississippi Valley (Muller 1978). The possible diffusion of material and sociopolitical concepts from the Midwest may be indicated by the fact that Coles Creek ceramics have been recovered from early Cahokian contexts dating from ca. A.D. 900 in southeastern Missouri (Kelly 1990:136). These changes probably initiated the transformation of Coles Creek cultural traits into what now is recognized as the Plaquemine Culture sometime before A.D. 1200 (Jeter et al. 1989; Williams and Brain 1983).

Coles Creek ceramic vessels are distinguished by their grog and grog/sand tempering.

Decorative motifs include cord marking, red filming, and simplified zoned rocker-stamping, as well as decorations with incised lines and curvilinear lines. Coles Creek peoples continued to use Troyville wares, with some elaborations (McIntire 1958). For instance, the Churupa Punctated and the Mazique Incised designs, both of which are characteristic of the Troyville Culture, were used by Coles Creek and later Plaquemine pottery makers (McIntire 1958). Similarly, French Fork Incised, which formed the basis for many Troyville classifications, continued to be used well into the Coles Creek period (Phillips 1970).

Coles Creek peoples also developed a new ceramic complex that included larger vessels and a wider range of decorative motifs, usually positioned on the upper portion of the vessel (Neuman 1984). Coles Creek Incised, Beldeau Incised, and Pontchartrain Check Stamped are typical examples of these wares (Phillips 1970; Weinstein et al. 1979). One distinctive decorative type, Coles Creek Incised, contains a series of parallel incised lines placed perpendicular to the rim of the vessel, often accompanied underneath by a row of triangular impressions (Phillips 1970:70; Phillips et al. 1951:96-97). Several of the ceramic motifs reflect external cultural influences. French Fork Incised motifs and decorative techniques, for example, mimic almost exactly Weeden Island Incised and Weeden Island Punctated types from the Gulf Coast of northwest Florida (Phillips 1970:84; Phillips et al. 1951:101; Willey 1949:411-422). Pontchartrain Check Stamped ceramics also appear at the same time as the resurgence of the check stamped ceramic tradition during Weeden Island III in northwest Florida (Brown 1982:31).

Sites from the Coles Creek cultural period primarily were situated along stream systems where soil composition and fertility were favorable for agriculture. Natural levees, particularly those situated along old cutoffs and inactive channels, appear to have been the most desired locations (Neuman 1984). Most large Coles Creek sites contain one or more pyramidal mounds. Coles Creek mounds typically are larger and they exhibit more building episodes than the earlier Marksville burial mounds. While burials occasionally are recovered, the primary function of the Coles Creek mounds appears to have been ceremonial. At some Coles Creek sites, mounds are connected by low, narrow causeways; plazas occasionally are associated with these multiple mound sites (Gibson 1985b). According to Williams and Brain (1983), these traits reflect Mesoamerican influences.

The complexity of the Coles Creek mound system suggests a social structure capable of supporting a centralized authority with a sizable labor force to construct and maintain the mounds. The non-elite population probably occupied the region surrounding the large ceremonial centers (Gibson 1985b; Neuman 1984; Smith et al. 1983). In general, small Coles Creek sites consist mostly of hamlets and shell middens, and they normally do not contain mounds.

Recent work has dispelled the theory that an intensification of agriculture, particularly maize and squash cultivation, comprised the subsistence base of the Coles Creek Culture. Although Coles Creek populations exhibit tooth decay rates consistent with a diet based on starchy foods such as maize, the limited archeobotanical evidence for maize in Coles Creek midden deposits suggests that consumption of some other starchy foods may have been the cause (Kidder 1992; Steponaitis 1986). While researchers speculate that cultigens, especially squash species, were harvested by Coles Creek peoples, evidence of dependence on domesticated plants has been lacking at early Coles Creek sites (Kidder and Fritz 1993; Kidder 1992). The preponderance of evidence now available indicates that the cultivation and consumption of maize was not widespread in the lower Mississippi Valley until after the Coles Creek period, ca. A.D. 1200 (Kidder 1992:26; Kidder and Fritz 1993).

Earlier assumptions about the nature and extent of social and political differentiation during Coles Creek also must be re-examined. Square-sided, flat-topped mounds that are believed to have served as platform bases for elite structures first appeared during the Coles Creek period. Evidence for elite residential or mortuary structures often said to be associated with these mounds, however, remains elusive prior to A.D. 1000 (Kidder and Fritz 1993; Smith 1986; Steponaitis 1986). Nevertheless, both the form of the platform mounds and their arrangement

around plazas may be indicative of Mesoamerican influence (Willey and Phillips 1958; Williams and Brain 1983).

A total of 112 Troyville/Coles Creek sites have been recorded in Management Unit V, more than any other prehistoric period. Significant numbers of these sites are located in almost every parish within the Management Unit. In Iberville Parish, only seven Coles Creek period sites have been identified (Smith et al. 1983:96).

Mississippian Stage (A.D. 1200 - 1700)

The Mississippian stage represents a cultural climax both in population growth and social and political organization for those cultures occupying the southeastern United States (Dye and Cox 1990; Phillips 1970; Williams and Brain 1983). The advent of the Mississippian stage is represented at sites throughout the lower Mississippi Valley and along the northern Gulf Coast. Mississippian period sites are recognized by a distinctive complex of traits that include shell tempered ceramics, triangular arrow points, copper-sheathed wooden earspools, and maize/beans/squash agriculture (Williams and Brain 1983). Mississippian sites containing large "temple mounds" and plazas have been recorded throughout the Southeast at such places as Winterville, Transylvania, Natchez, Moundville, Bottle Creek, and Etowah (Hudson 1978; Knight 1984; Walthall 1980; Williams and Brain 1983).

In the lower Mississippi Valley, the Mississippian stage includes the Plaquemine or Emergent Mississippian period (ca. A.D. 1200 - 1450) and the Late Mississippian period (ca. A.D. 1450 - 1700). Each of these periods are described below.

Emergent Mississippian Period (A.D. 1200 - 1450)

The Emergent Mississippian period - Plaquemine Culture appears to represent a transitional phase from the Coles Creek Culture to a pure Mississippian Culture (Kidder 1988). The emerging Mississippian Cultures of the Middle Mississippi Valley probably exerted enough influence during the latter part of the Coles Creek period to initiate the cultural changes that eventually defined the Plaquemine Culture. Plaquemine Culture peoples continued the settlement patterns, economic organization, and religious practices established during the Coles Creek period; socio-political structure and religious ceremonialism, however, were intensified. This suggests, among other things, a complex social hierarchy. Large ceremonial sites, which typically contained multiple mounds surrounding a central plaza, were constructed. Smaller dispersed villages and hamlets also formed part of the settlement hierarchy (Neuman 1984).

Although Plaquemine Culture ceramics are derived from the Coles Creek tradition, they display distinctive features that mark the emergence of a new cultural tradition. In addition to incising and punctating pottery, Plaquemine Culture craftsmen also brushed and engraved their vessels (Phillips 1970). Plaquemine Culture ceramic types include Plaquemine Brushed, Leland Incised, Hardy Incised, L'Eau Noire Incised, Anna Burnished Plain, and Addis Plain. Plaquemine Brushed appears to have been the most common ware type (Kidder 1988:75).

Gregory (1969) reports that Plaquemine Culture sites in the Catahoula basin demonstrate a propensity toward settlement in lowland areas, including swamps and marshes. This position is supported by both Jeter (1982) and Schambach (1981) in reference to southeast Arkansas and the Felsenthal region of that state. In contrast, Neuman (1984) cites Hall's observation that Plaquemine Culture sites in the upper Tensas Basin were located most frequently on well-drained natural levees characterized by sandy soils. In the Boeuf Basin, Kidder and Williams (1984) note that Plaquemine Culture components frequently overlie earlier Coles Creek period occupations.

A total of 57 Plaquemine period sites have been recorded in Management Unit V. Only seven Plaquemine Culture sites have been documented in Iberville Parish (Smith et al. 1983:96).

Late Mississippian Period (A.D. 1450 - 1700)

As early as A.D. 1450, several traits that now are definitive of the Mississippian period were wide-spread across most of the Southeast. These diagnostic traits include well-planned mound groups, a wide distribution of sites and trade networks, a revival in ceremonial burial of the dead, and production of shell tempered ceramics (Griffin 1990:7-9), an innovation that enabled potters to create larger vessels (Brain 1971; Steponaitis 1983). Ceramic vessel forms include

globular jars, plates, bottles, pots, and salt pans. Additionally, the loop handle appeared on many Mississippian vessels. Although utilitarian plainware was common, decorative techniques included engraving, negative painting, and incising; modeled animal heads and anthropomorphic images also adorned these ceramic vessels. Other Mississippian artifacts included chipped and groundstone tools; shell items such as hairpins, beads, and gorgets; mica and copper items; and projectile point types such as Alba and Bassett.

Mississippian subsistence was based on the cultivation of maize, beans, squash, and pumpkins, the collection of local plants, nuts, and seeds, and fishing and hunting of local species. Major Mississippian sites were located on fertile bottomlands of major river valleys, in terrain characterized by sandy and light loam soils. A typical Mississippian settlement consisted of an orderly arrangement of village houses surrounding a truncated pyramidal mound. These mounds served as platforms for temples or as houses for the elite. A highly organized and complex social system undoubtedly existed to plan these intricate communities.

A total of 50 Mississippian period sites have been identified in Management Unit V. Only five Mississippian period sites have been identified in Iberville Parish (Smith et al. 1983:96.)

Protohistoric and Early Historic Period (ca. 411 - 220 B.P. [A.D. 1539 - 1730])

An understanding of protohistoric and historic Native American cultures of the southeastern United States is limited by our frequent inability to recognize the prehistoric cultures from which these historic groups were derived. This is due partially to the waning influence of Mississippian and, to a lesser degree, Plaquemine Culture, but primarily it is a result of the social disruption initiated by the legacy of the Hernando de Soto entrada of 1539 - 1543, and the subsequent French and Spanish exploration and colonization of the Southeast. Native American population upheavals and depletions were related to warfare, disruptive migrations, and epidemics introduced by European contact (Davis 1984; Smith 1987).

Villages apparently remained similar to those observed previously at Plaquemine and Mississippian sites. The larger villages generally featured one or more truncated pyramidal mounds surmounted by chiefs' houses and temples; the remainder of the population lived in the area surrounding the mounds and in satellite hamlets. Houses were rectangular in shape and were constructed of poles placed in the ground, with wattle and daub walls and thatched roofs (Swanton 1946).

According to *Louisiana's Comprehensive Archaeological Plan* (Smith et al. 1983), the major Native American languages spoken in the northwestern portion of Management Unit V at the time of European contact belonged to the Muskhogean family. These linguistic groups were comprised of the Houma, Bayougoula, Acolapissa, Mugulasha, Tangipahoa, Okelousa, Washa, and Chawasha. While many of these groups lived in the southern portion of the Management Unit, the Bayougoula were associated most closely with the parishes that contain the proposed project reach.

According to Kniffen et al. (1987:50), the Bayougoula (the Bayou or River People) resided on the west bank of the Mississippi River. They established a small community housing some 400 to 500 people near the Town of Plaquemine in Iberville Parish, Louisiana. On his expedition up the Mississippi River, Iberville visited a Bayougoula village located approximately one quarter of a mile from the right descending bank of the river and situated adjacent to a small creek utilized as a source of fresh water (Kniffen et al. 1987:50). Soon after the arrival of the French, the Bayougoula and the other Muskogean-speaking groups of the area, including the Acolapissa, Quinapisa, Mugulasha, and Tangipahoa, lost their separate identities as tribes. These groups simply became referred to as the Colapissas by French settlers. By the nineteenth century, there was no longer any mention of the Bayougoula tribe in Iberville Parish. Some scholars have suggested that tribe merged with the Houma (Kniffen et al. 1987:90), but evidence demonstrating this hypothesis is lacking.

CHAPTER IV

HISTORICAL OVERVIEW

Introduction

The history of the project region is directly related to the unique and changing environment of the Eastern Atchafalaya Basin (Figure 6). Cultural activities conducted throughout the basin during this period primarily involved the exploitation of natural resources. The following overview outlines the cultural processes that contributed to the historical development of the project region and it includes comparisons of the French, Spanish, and American patterns of colonization, and discussions pertaining to the various ethnic groups that migrated to and scattered throughout the region.

The French Colonial Period

The first historical account describing the Iberville Parish region was recorded in 1699 by the French explorer Pierre le Moyne, Sieur d' Iberville. Iberville descended the Mississippi River in an attempt to counter British expansion within the Gulf Coast region and to justify French hegemony in the Mississippi River Valley. After a six week journey, Iberville arrived in the vicinity of what would later be called Iberville Parish, in his honor. On March 14, 1699 he recorded in his journal that there was a creek used by the Outymascha (Chitimachas) positioned along the left side of the Mississippi River. This creek, called Bayou Plaquemine, was named because of the persimmon trees that lined its banks (Postell 1942). In addition, Iberville encountered the villages of the Bayougoula and the Houma Indians (McWilliams 1981).

To lessen the economic burden of managing the Louisiana colony, the French government decided to entrust the administration and development of the colony to private hands (Riffel et al. 1985:4). The first such concession was granted to the Company of Louisiana, established by Antoine Crozat in 1712, and it soon was followed by the Mississippi Company directed by John Law and Bienville's Company of the West in 1718. The Company of Louisiana was given a full monopoly over production and export from the colony, as well as mineral rights to the land. Unfortunately, the desire for gold led Crozat on a fruitless search, and agriculture and trade remained underdeveloped. After the fifth year of his fifteen year concession, Crozat's losses seemed insurmountable, and he surrendered his charter in 1717. Later that same year, the Company of the West was granted the charter for Louisiana. Law understood that profits could not be realized from a colony with such a small population. Consequently, in order to attract new settlers to the territory, Law offered tracts of land to all men who would establish agricultural settlements within the struggling colony. One of these grants, known as the Paris Duvernay Concession, "was located at the ancient village of the Bayogoula [sic] Indians on the west bank of the river," i.e., near modern day Bayou Goula (Riffel et al. 1985:4). An inventory conducted in 1726 (Pritchard 1938:979-994) depicted the settlement as "four square leagues containing about seventy arpents cleared and which are at present planted in rice, potatoes, etc." Although it was beset by administrative problems, the Paris Duvernay Concession represented a successful early attempt at upriver settlement. Despite the early success of the Paris concession, the eastern Atchafalaya Basin region had no real permanent settlement until the arri-

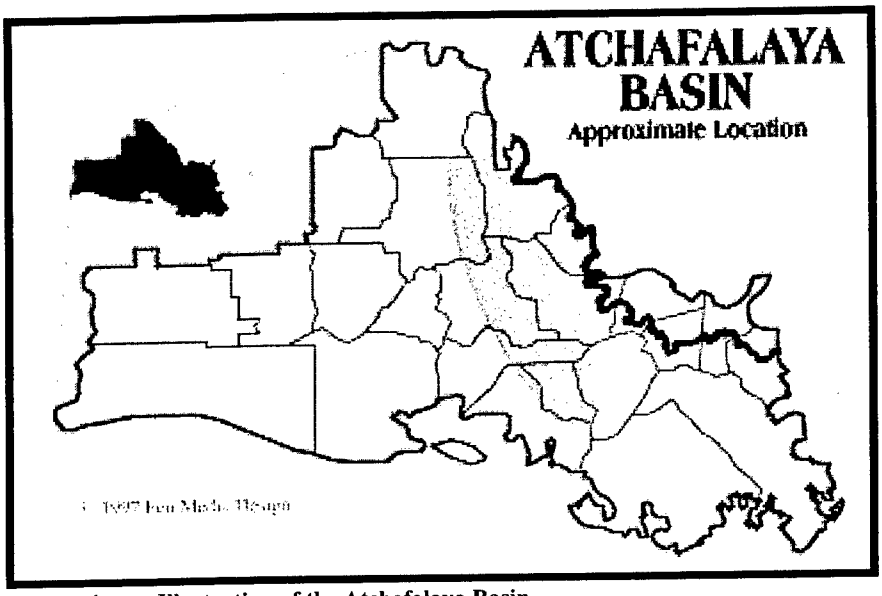

Figure 6. Illustration of the Atchafalaya Basin.

val of the Acadians at St. Gabriel in 1776 (Riffel et al. 1985).

Because the first French colonization efforts in the Lower Mississippi Valley were concentrated on agricultural lands positioned along the Mississippi River above and below New Orleans, inundated, low-lying back swamp areas, like the Atchafalaya Basin, remained unsettled. In addition, the study area during the historic contact period contained numerous warring Native American tribes, e.g., the Chitimacha, the Bayogoula, the Mougoulachas, and the Ouma. As a result of these factors, there is no documented evidence of extensive European settlement in the study region during the French colonial period.

The European wars of the mid-eighteenth century, which culminated in the Seven Years' War (1756-63), proved disastrous for France. Financially and militarily unable to support the colony any longer, France ceded Louisiana to Spain in 1762 by the Treaty of Fontainebleau. It was not until 1766, however, that the Spanish governor, Don Antonio Ulloa, arrived in Louisiana to begin Spanish administration of the territory (Riffel et al. 1985).

The Spanish Colonial Period

St. Gabriel was established by Spanish colonists dispatched to the Mississippi River area above New Orleans after France ceded Louisiana to Spain in 1762. In response to the British settlements at Fort Bute, Manchac, and Fort New Richmond (Baton Rouge), Spain encouraged Acadian refugees exiled from Nova Scotia to settle outposts in Louisiana (Figure 7). Under the command of Joseph de Onieta, Fort St. Gabriel was constructed south of Bayou Manchac, i.e., 24.1 km (15.0 mi) from the current project area. According to reports provided by Onieta to the Spanish Governor Ulloa, the St. Gabriel outpost constantly was threatened by Native Americans and disease (Riffel et al. 1985). Although the Spanish initiated colonization in the Mississippi River region near Bayou Manchac for military reasons, they stimulated the creation of frontier settlements by welcoming Acadians to Louisiana by the hundreds, even after the English had abandoned their East Florida territories outpost in 1768.

It became apparent during latter decades of the French colonial era that the economic future of Louisiana lay in the development of commercial agriculture on the productive floodplains. When the Spanish took over the administration of the colony, they continued the practice of granting land to new settlers. The Acadians originally settled along the Mississippi River in what are now St. James, Ascension, and Iberville Parishes, an area known as the "Acadian Coast." Unlike the wealthier French European planters who bought large concessions and used large contingents of slaves to work their plantation fields, most of the immigrating Acadians were "petite habitants," or small farmers. Like the German Rhinelanders who settled the "Des Allemands," the German Coast (in the present day parishes of St. Charles and St. John the Baptist), the Acadians worked their own fields (Kniffen 1974).

Along the Acadian Coast, the pattern of Spanish ". . . land grants firmly established an enduring pattern of small independent farms

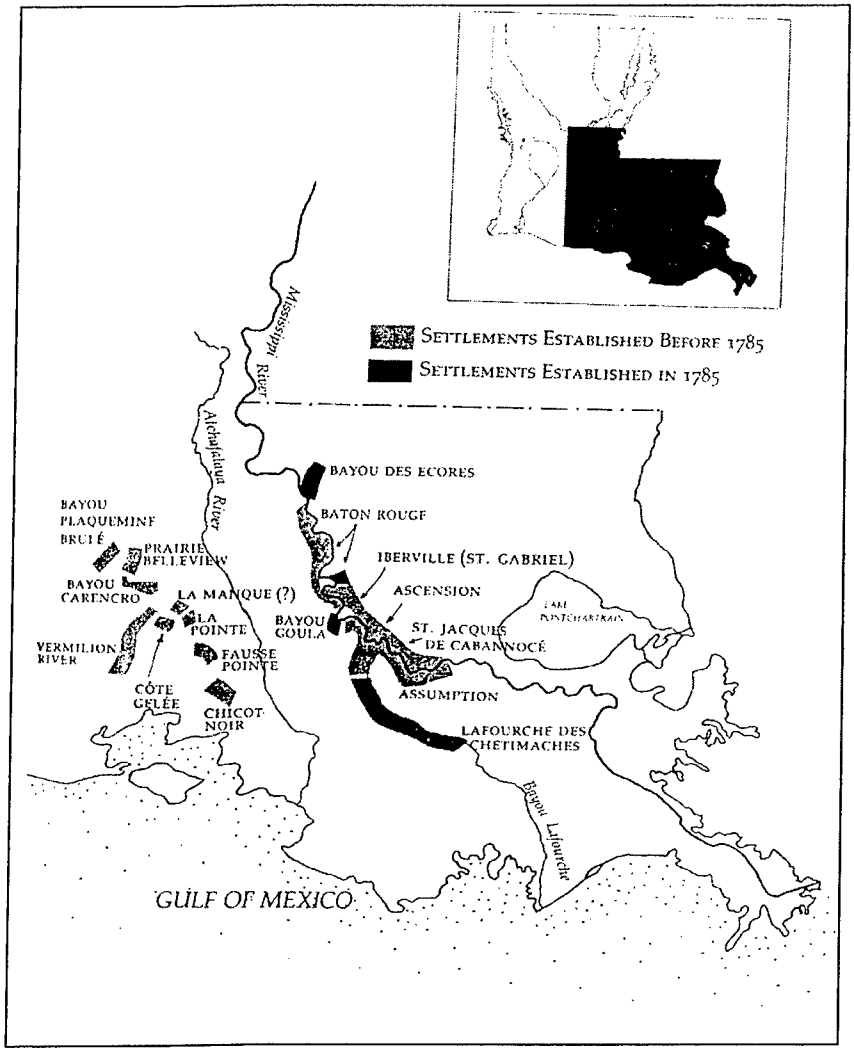

Figure 7. Areas of Acadian Settlement, 1785.

which effectively retarded the wholesale development of large plantation[s]," as well as the institution of slavery (Conrad 1979:76). This does not mean that Acadians opposed slavery, but, rather, they could not afford them. Over 70 percent of Louisiana families owned no slaves, and in the South as a whole, membership in the "planter class" (requiring the ownership of 20 or more slaves) was rare (Conrad 1979). Those who were not in the "planter class" were not counted in the census, therefore population data for the area is inaccurate. The resourceful Acadians found Louisiana the perfect locale for their autonomous communities. Successful Acadian settlements spread from the confines of the Mississippi River to the outlying bayous. Soon the French speaking Acadians were the dominate ethnic group in Louisiana (Rushton 1979).

As the Acadians arrived in larger numbers, Spain granted patents, or concessions, at increasing distances from New Orleans along the Mississippi River. Eventually, only the less desirable bayou lands remained. Immigrants who were too poor to afford property became tenant farmers or squatters. Although tenant farms and squatters were not historically accountable, they were crucial to the establishment of the back country and they were the first to establish permanent outlying settlements in the Atchafalaya basin interior. Many of the descendants of these poor settlers later acquired property through "Squatter's Rights," and they played an important role in the development of bayou country culture (Comeaux 1972). Already accustomed to living in the New World at colonial establishments in Nova Scotia, the French Acadians who settled the outlying bayou frontier learned from the indigenous inhabitants and quickly adapted to their environment. For example, the new settlers learned how to build log canoes called "peroques" (pirogues). This adaptation was crucial because the first boats used regularly by the French in the lower valley were "chaloupes" and "canots." These deep rafted and wind powered boats vessels sat low in the water, making movement upstream arduous (Walker 1965). The largest pirogues, on the other hand, could hold 30 passengers or 40 to 50 tons of cargo, and because they were hewn from cypress, they were remarkably buoyant (Walker 1965).

The Spaniards were mostly military administrators and they failed in developing strong Spanish communities. Unlike the Spanish colonies in Peru and Mexico, where gold was plentiful, the Louisiana territory was strategic, but not

necessarily profitable. Considering these facts, the Spanish lacked the motivation to transport their culture to Louisiana. This contributed to early assimilation and a concomitant lack of persistent Spanish traditions, language, and customs. The early Spanish speaking settlers in the region were called "Islenos," because they came from the Canary Islands. They were not as successful, however, as the Acadians in adapting to pioneer life in Louisiana. The Islenos lived under a paternalistic government and they were unaccustomed to self reliance. The commandant of Galveztown, one of the first settlements in Iberville Parish (founded by Governor Galvez in 1778), reported that he had to tell the settlers what to do all the time: "besides farming [and cattle raising], they had no talents or trades" (Riffel et al. 1985:7).

Because the Spanish were traditionally ranchers instead of farmers, they were not responsible for any of the major agricultural changes in Louisiana. Cattle raising was more important than field agriculture in the grassy prairies of the mostly Acadian Attakapas and Opelousas regions of the great Atchafalaya swamp (Conrad 1979). While the French arpent system was convenient for planting crops, it was not well suited for the pasture land requirements of the cattle industry (Kniffen 1974). For that reason the Spanish repartitioned the arpent divisions into larger squares and rectangles of as many as 1,822 ha (4,500 ac) for the vacheries, or ranches.

The study area during the late eighteenth century was preeminently part of a water transportation network that traversed the Atchafalaya Basin to the Attakapas and Opelousas regions. A northern route that proceeded west from the Mississippi River followed Bayou Plaquemine to Bayou Grosse Tete and then along the Grand River, Atchafalaya River, and Bayou Courtableau to Bayou Teche at Port Barre. The southern route followed Bayou Plaquemine, Grand River, and Bayou Sorrel into Grand Lake (Comeaux 1972). Trappers and traders traversed the bayous and cypress swamps of the region throughout the late eighteenth century.

By the end of the eighteenth century, Spain no longer could afford the struggling colony and ceded Louisiana back to France in 1800 by the Treaty of San Ildefonso. France then sold Louisiana to the United States in 1803.

The Louisiana Purchase and Antebellum Development

The U.S. Congress created a territorial government in Louisiana in 1804, and William C.C. Claiborne, the first American governor, arrived in New Orleans in 1805 (Figure 8). In 1807, after an unsuccessful experiment in forming counties as administrative units, the legislature divided the state into 19 parishes, to serve as the basis for local government (Lowrie and Franklin 1834).

The Eastern Atchafalaya Basin region was still developing slowly at the time the United States government acquired Louisiana in 1803. Henry Marie Brackenridge, who traveled down the Mississippi River in 1811, wrote that "the greater part of the tract of the Atchafalaya, Bayou Plaquemine, and the Mississippi, is low and uninhabitable land of which no use can be made in its present state" (Riffel et al. 1985).

Shortly after the acquisition of Louisiana, the United States government recognized the need for territorial surveys and legal ratification

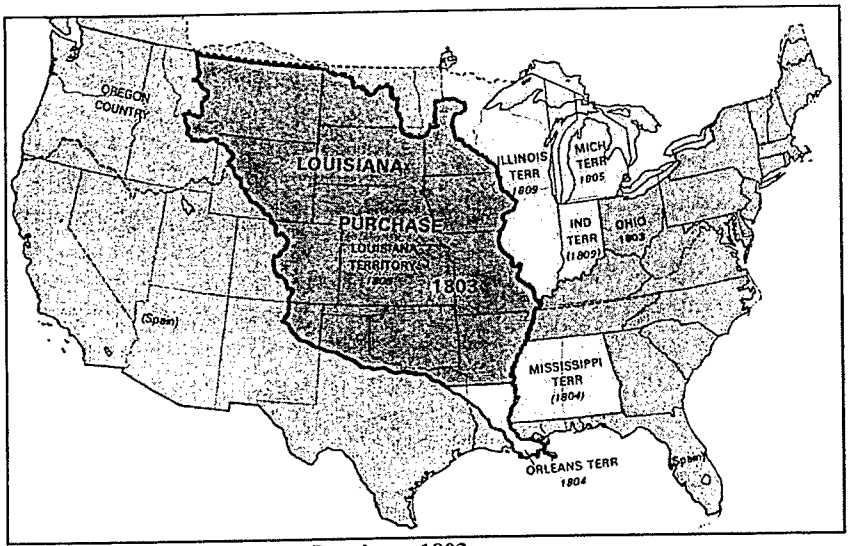

Figure 8. The Louisiana Purchase, 1803.

of land ownership in the region. Local landowners were required to register formal claims; legal ownership was based on proof of French or Spanish grants, patents, concessions, or orders of survey. If records were not available, proof of 10 years of habitation and cultivation of the plot prior to 1803 was acceptable (Lowrie and Franklin 1834). Most of the grants in Iberville Parish were located along the Mississippi River. Darby (1817) states that Galveztown on Bayou Manchac was the only village in the parish.

Economic success in Louisiana, absent under the French and Spanish governments, finally was achieved under the jurisdiction of the United States. In 1795, Etienne de Bore successfully granulated sugar from sugar cane and this sparked the growth of what would become Louisiana's major industry. Because of this development, along with the invention of the cotton gin, sugar cane and cotton cultivation emerged as profitable enterprises throughout the state (Sitterson 1953). With the acquisition of Louisiana by the United States, Americans from the north began trekking southward to try their luck as planters: "Rich and poor, slaveholder and nonslaveholder, large planter and small farmer . . . all poured into this rapidly developing region. Among the newcomers were planters with the capital necessary to undertake sugar culture and the initiative and imagination to foresee the possibilities of the development of the new industry" (Sitterson 1953:23).

Change in land use and distribution occurred very quickly. Substantial capital was required for sugar mills, protective levees, and slaves. Small farmers and landowners increasingly sold their holdings to large plantation owners and wealthy speculators (White 1944:352). When a small farm was offered for sale on the owner's death, the high valuation of the land kept prices above the reach of the small farmers (Sitterson 1953: 48). Under the United States administration, backlands were offered for sale, enabling landowners to add an additional forty arpents of land to the rear of their holdings. Furthermore, cane cultivation was only profitable on a large scale, requiring large land holdings and investments that could exceed $200,000.00 (Taylor 1976:65). These factors all led to a pattern where small farms were consolidated into larger plantations.

Cotton also was an important crop for southern Louisiana farmers, but the introduction of the heartier "Ribbon Cane" sugar in 1817, together with a drop in cotton prices and several disastrous cotton seasons, caused a widespread shift to sugar production in the 1830s and 1840s. In the River Parishes below Baton Rouge, including "Sweet Iberville", sugar planting became the dominant, almost universal, industry during the antebellum period (*South Louisiana Salute* 1949: 1).

By the 1830s, small villages such as Grosse Tete, Grand River, and later Bayou Sorrel began to develop along the natural levees of the various bayous of the Atchafalaya region (Postell 1942). Agriculture began along Bayous Pigeon and Sorrel and Grand River by 1845 (*Planter's Banner* 1847). This area was developed primarily by absentee landlords, and it was dependant heavily on slave labor (Comeaux 1972). Between 1850 and 1860, however, floods ruined crop after crop in the interior basin. Perhaps to compensate economically for such losses, in 1853 there was a saw mill located just west of Bayou Sorrel at Grand River (G.W.R. Bayley map) (Figure 9).

Civil War and Aftermath

Most hostilities during the Civil War in the Atchafalaya Basin were centered at the Confederate strongholds along Bayou Teche and in the Opelousas Prairie. Under the command of General Benjamin Butler, and later of General Nathaniel P. Banks, the Union Army captured New Orleans and tried to break Confederate positions throughout the basin. The recent completion of the New Orleans, Opelousas, and Great Western Railroad between Algiers and Brashear City (Morgan City) enabled the Union Army to access the strategic Teche region to carry out their invasion plans. Confederate forces along the Teche were under the command of General Richard Taylor, a Louisiana native familiar with the bayou terrain. Taylor successfully thwarted Union efforts to capture the Teche region and Fort Bisland near Calumet. Eventually, Taylor's forces were surrounded by General Weitzel and his troops who were stationed at Brashear City, along with the men of General Groves who marched from Bayou Beouf and General Emory, whose men were positioned along Bayou Ramos.

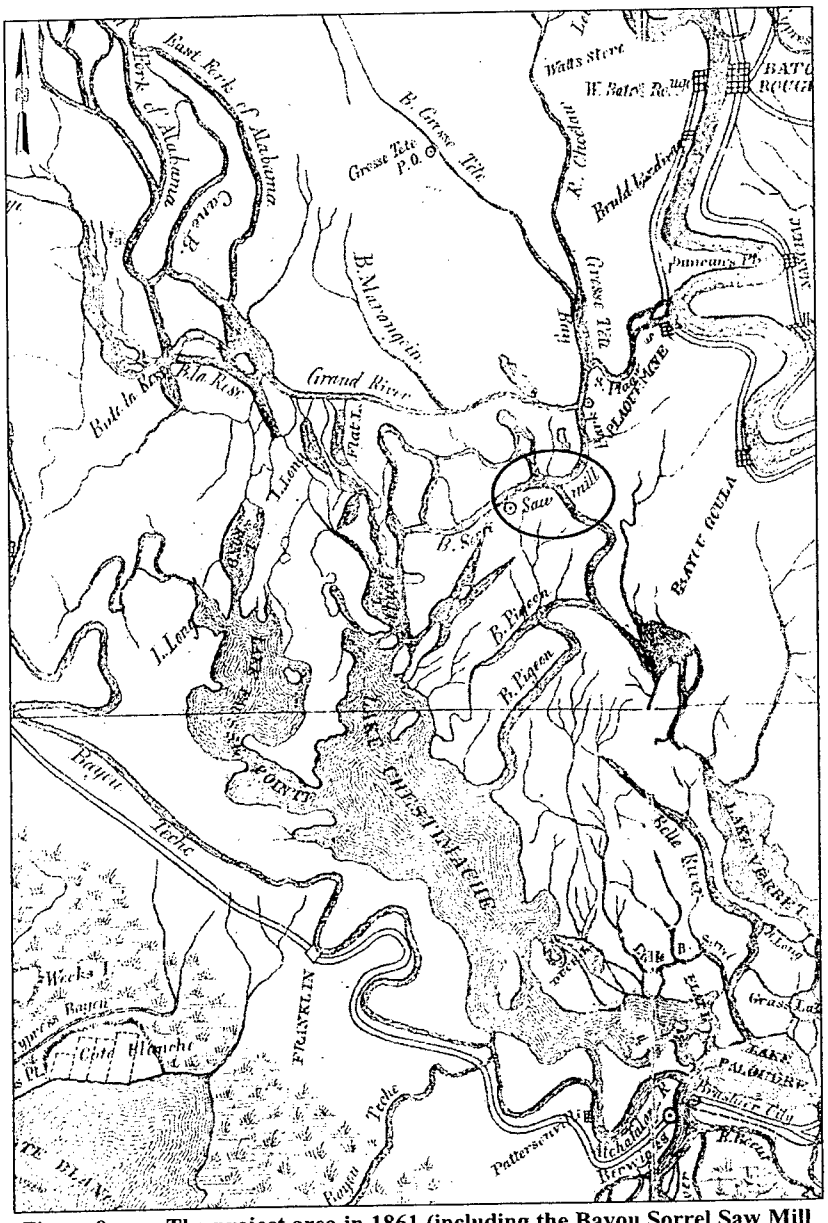

Figure 9. The project area in 1861 (including the Bayou Sorrel Saw Mill on the Grand River).

Lieutenant John Watson, the naval commander of the Emory expedition, found that driftwood rafts blocked Bayou Sorrel and Lake Chicot, making it impossible to transport his troops through Upper Grand River via this route (Raphael 1975). The Confederate army, after numerous battles and strategic troop movements, was forced to retreat out of the basin, fleeing to Alexandria and then to Shreveport.

Meanwhile along the eastern side of the basin, the principal obstacle for the Union forces was Port Hudson on the Mississippi River north of Baton Rouge. General Banks prepared to bring Union forces through Bayou Plaquemine, then north through the recently cleared Atchafalaya River to the Red River, and finally east to the Mississippi River above Port Hudson. By advancing through the Red River, the main supply route to Port Hudson would be severed. The costly siege of Port Hudson, however, allowed for the retreating Taylor to muster a counterattack in the Teche country by advancing two Confederate armies on Brashear City. Taylor, with the help of the Texas Calvary, successfully routed the Union forces at Brashear City and reestablished their strategic advantage through the Basin. The Atchafalaya Basin remained an unconquerable battleground until the end of the war in 1865 (Gibson 1982).

Reconstruction Period

Agriculture in the Atchafalaya Basin virtually ceased during the Civil War (Comeaux 1972). The swamps of lower Louisiana became a refuge for Southerners avoiding the rigid Confederate conscription policy (Shugg 1939). Many of these English speaking draft dodgers and Yankee deserters settled in Bayou Chene, i.e., approximately 16.1 km (10.0 mi) to the west of the current project area (near the outlet of the Bayou Sorrel channel). This area developed a reputation for being a particularly rough place (Comeaux 1972; Gibson 1982).

The Civil War devastated Iberville Parish. The value of property in the Parish on the eve of Civil War was assessed at approximately $14,000,000.00. At that time, 13,355 ha (33,000 ac) were planted in cane, 8,903 ha (22,000 ac) were planted in corn, and 607 ha (1,500 ac) were

planted in cotton. The white population of the parish numbered 5,600; the slave population was estimated at 10,000. Only 200 free persons of color resided in the parish (Pritchard 1938:1129).

The slave-based sugar industry was thrown into turmoil by the Civil War. Prices fell, credit was ruined, and it was nearly impossible to keep slaves on the plantations (Begnaud 1980:38-39; Goodwin and Yakubik 1982). As a result of these financial difficulties, many planters lost their estates. After the war, the industry was slow to recover from the disruption it had suffered. A pervasive lack of capital impeeded the revitalization of the industry. Planters could not afford to rebuild their sugar houses, nor could they repair the levees that had been neglected during the war years. Without proper levees, many former sugar plantations were inundated during high water. In addition, the loss of slave labor further encumbered the economic recovery. Many former slaves migrated north, and those who stayed were regarded as unreliable; they were perceived by the white population as a political threat. Bouchereau and Bouchereau (1868-1869:vii) noted that "not more than two out of every twenty sugar planters have a full compliment of laborers".

These fundamental obstacles necessitated great changes in the sugar industry. Since most planters lacked both the capital and the laborers to manufacture sugar, a new method was proposed by Bouchereau in 1874. He urged that the agricultural and industrial aspects of sugar production be separated. His proposal, the "Central Factory System," included centralized mills to serve the needs of many planters: "Let the sugar factories be established in different neighborhoods and let the producers of the cane sell it to the factory" (Bouchereau and Bouchereau 1874:xii-xiii).

In this way, the increased labor costs could be absorbed by the savings on mill processing and manufacturing. The system also allowed smaller farmers to participate in cultivating sugar; impoverished farmers were able to grow sugar cane on their smaller tracts and then sell it to the factory. Under the antebellum plantation system, small scale production had been unfeasible.

Rice cultivation became a viable alternative to the high cost of sugar cane production for many planters. In 1877, Bouchereau wrote: "Many of the sugar plantations are planted in rice for want of the necessary means to rebuild or repair sugar houses, etc., while others are only partially cultivated owing to the encroachment of water from crevasses, and many are completely abandoned on account of overflow" (Bouchereau and Bouchereau 1877-78:XX). Rice was a more appropriate crop for the neglected postbellum plantations since inundation, although harmful to the growth of sugar cane, was necessary for rice cultivation. Rice agriculture was also much less labor intensive than sugar cane cultivation, an added incentive to landowners facing a labor shortage (Goodwin et al. 1988).

By the end of the nineteenth century, sugar had regained its prominence as an agricultural staple, particularly in the River Parishes. The Central Factory System caught on and it was quite successful; in 1893 Bouchereau remarked:

> Gradually the cultivation of cane and the manufacture of sugar from it are becoming separate and distinct industries. Men of means invest their capital in equipping first class factories furnished with all the modern improvements that the genius of the inventor has produced; small planters pursue the cultivation on the general lines...More sugar is now produced per acre than ever before" (Bouchereau and Bouchereau 1874:xii-xiii).

Cash crop agriculture in the Atchafalaya Basin was destroyed by the Civil War, and then by flooding (Swanson 1983). At the head of the Atchafalaya River, the channel was 0.6 m (2.0 ft) deep during low water in 1845. In 1831, Captain Henry Shreve shortened the Mississippi River by cutting through a sharp bend in the river above Pointe Coupee Parish. Shreve's cut off and the removal of the Atchafalaya rafts prior to the Civil War, contributed to increased water levels in the Atchafalaya Basin. Thus, by the time of the 1874 flood, most of the remaining agricultural holdings in the basin were abandoned. Only small farmers who occupied the higher ground remained (Comeaux 1972). By 1883, the Atchafalaya River channel at its head was 37.2 m (122 ft) deep (Davidson 1883).

Hunting, trapping, and fishing increased throughout the basin at the expense of agriculture (Comeaux 1972). Settlers within the Atchafalaya Basin learned to exploit this unique environment and they developed a life style suitable for the region (Gibson 1978). These hardy trappers and fishermen relied on a nomadic settlement pattern with either isolated dwellings or floating camps consisting of several families (Knipmeyer 1956). Entire families could be located near the source of the economic activities without the attendant problems caused by flooding (Gibson 1982).

Lumbering became the most important industry in the Atchafalaya Basin during the latter half of the nineteenth century. The Timber Act of 1879 opened the cypress swamps of the Atchafalaya Basin for sale (Norgress 1947). The Timber Act allowed for the sale of the remaining unclaimed cypress stands for as little as 12.5 cents per acre (Norgress 1947). Innovations in the cypress lumber industry during the late 1800s, such as the "overhead skidder", the "pull boat", the rotary saw, and the band saw, increased lumbering throughout the region. The clearing of cypress stands in the basin between 1880 and 1920 progressed at a phenomenal rate (Gibson 1982). Lumber settlements, or mill towns, grew up near saw mill processing centers. These "portables," or communities established near harvest sites, also were referred to as "skidder towns" (Roberts 1974). "Swampers" were the seasonal laborers who worked the temporary lumber camps of south Louisiana. The cypress industry, however, declined as rapidly as it developed. By the middle of the 1920s, the great cypress stands in the Atchafalaya Basin were being exhausted and the mills began to close down (Roberts 1974). The cultural and ecological changes caused by the deforesting of the basin are still being felt. According to Comeaux (1978), the innovative swamper culture degenerated with the passage of the great lumbering era.

The Twentieth Century

During the First World War, the U.S. Army Corps of Engineers began construction of a new levee system that contained the Atchafalaya River and prevented it from overflowing its banks. Instead of periodically spreading silt throughout the bottom lands, the river deposited silt across the Basin floor. As a result, the water table rose. Beginning in 1923, floods presented serious problems; the rising water had a rather adverse effect on the human population of the Basin. Floods also hampered the operation of the Southern Pacific Railroad, which had built its tracks across the Basin early in the century (Delcambre 1987:14).

The Great Mississippi River Flood of 1927 seriously impacted the economy of the Atchafalaya Basin. High water badly flooded all the communities in the Basin and it swept away the railroad bridge over the Atchafalaya River. After the deluge, the Southern Pacific Railroad refused to repair the bridge. Until 1932, trains from Baton Rouge to Lafayette stopped at the Atchafalaya River; passengers then used a ferry to reach the other side. After 1932, the trains ceased operation altogether and Southern Pacific abandoned the tracks. Constructed ca. 1970, Interstate 10 follows the approximate route of the abandoned tracks of the Southern Pacific Railroad through the Atchafalaya Basin (Delcambre 1987:1-14).

As stated above, the great flood of 1927 dramatically changed the agricultural activities and settlement patterns of the Atchafalaya Basin. More than 323,760 ha (800,000 ac) of farm land were inundated in Southern Louisiana (Conrad 1979). "Overnight, the people of the bayous saw their lands covered with gray, swirling water, creeping up, at an alarming rate, from the broken levees along the Mississippi River." (Chase 1973). After the Henderson levee broke 32 km (20 mi) east of Bayou Chene, this interior basin community was abandoned. Most of the people who left Bayou Chene resettled in the western Teche region or along the bayous of Plaquemine Parish (Chase 1973). Many of the twentieth century settlers in Bayou Sorrel bear the surnames of the families who lived in Bayou Chene: Allen, Theriot, Verret, Landry, Seneca, Freyous, Diamond, Delord, and Texada. Accoring to Mr. Allen, who arrived in Bayou Sorrel in the 1940s, "they had [only] five families living here. When we moved here it was [the families] Esther, and Douglas, Dudeaux, Dupre, and Mr. Coupellia" (Walter Allen, personal communication, 1987).

Because high water made agriculture throughout the study region virtually impossible during the first decades of the twentieth century, most of the people who remained within area probably were squatters involved in subsistence

pursuits. Mr. Allen noted: "they just tote their flat around where fishing was good. They just tie up to a place, you know, they weren't claiming any land" (Walter Allen, personal communication, 1987). The local inhabitants of the basin survived through the extractive subsistence activities that began during the nineteenth century. Nelson McQuiston stated, "every month of the year we fished. When prices dropped we cut and floated timber or picked moss. We make a day fishin', selling Buffalo (fish) for three or five cents each and Catfish for two to four cents each. When we catch turtles, they had to be sixteen inches wide to get fifty cents for 'em" (Iberville Parish Library).

The current project area, like most of the inundated backswamps of the Atchafalaya Basin, remained practically uninhabited and economically marginal until oil and gas was discovered in the region in the late 1930s. By 1940, widespread seismographic and drilling activities were being conducted throughout the basin (Morgan City Historical Society 1960). Like the previous lumber industry, the shift to petroleum related activities brought considerable change to the basin. Population increase, the altering of the natural landscape, and shifting patterns in land use, especially along waterfront properties, were prominent results of the petroleum industry. Since most of the basin was inundated, the easiest access to the wells was by barge through a dredged bayou or canal. Today the basin is honeycombed with access canals and dotted with rigs and pipeline. The digging of industrial waterways has opened more routes for recreational fishing, crabbing, and trapping (Gibson 1982).

Plans for the Intracoastal Waterway were made as early as 1875, but the waterway was not opened until 1934, during the New Deal era (Terrebonne Parish Planning Board [1953]:9). The Intracoastal Waterway Alternate Route connects Morgan City in St. Mary Parish with the Mississippi River at Port Allen in West Baton Rouge Parish. The alternate route provides barges and other vessels with a particularly attractive substitute for travel on the Mississippi River.

The Bayou Sorrel Lock, which was opened to navigation in 1951, is located a few miles west of the Bayou Sorrel community. It is located along the Morgan City-Port Allen route of the Gulf Intercoastal Waterway in the area protected by the East Atchafalaya Basin Protection Levee. The Bayou Sorrel Lock permits uninterrupted navigation between the Mississippi River and the Intercoastal Waterway. The lock also prevents flood waters from the Atchafalaya River from flooding the protected areas (Perkins 1985).

Conclusion

During the historic period, the eastern Atchafalaya Basin witnessed a variety of dramatic changes. The people who settled throughout the project area, from the eighteenth century Acadians to the oil rig roustabouts and barge operators of the twentieth century, developed their communities in accordance with the changing environment. This unique landscape provided a setting for the development of distinct cultural trends and adaptive local economies. Nonetheless, settlement in the project area has been sparse; no significant historic period sites are expected within the Area of Potential Effect.

CHAPTER V

PREVIOUS INVESTIGATIONS

Introduction

This chapter provides background contextual information about previous archeological and architectural investigations completed within the general vicinity of the currently proposed Bayou Sorrel lock replacement project items. This information was obtained in order to ensure that all previously recorded cultural resources situated within the current study area were relocated during fieldwork. In addition, this information was used to provide data on the nature and distribution of previously recorded cultural resources situated in the vicinity of the proposed project right-of-way. The chapter is divided into four sections. The first section contains a review of all previously recorded cultural resources surveys completed within 8 km (5 mi) of the proposed Bayou Sorrel project item. The second section presents a review of previously recorded archeological sites located within 1.6 km (1 mi) of the study area. A description of all previously recorded standing structures located within 1.6 km (1 mi) of the project parcel is presented next. Finally, the last section contains a review of previously recorded shipwrecks positioned within 1.6 km (1 mi) of the survey area and listed in *A Database of Louisiana Shipwrecks* (Clune and Wheeler 1991). The information contained in this review was based on a background research conducted at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Divisions of Archaeology and Historic Preservation, in Baton Rouge.

The relatively broad 8 km (5 mi) and 1.6 km (1 mi) ranges for studying cultural resources surveys and archeological sites and standing structures were chosen to maximize the understanding of the quantity and quality of data previously gathered on known cultural resources in the region encompassing the project area. A 1.6 km (1 mi) range was selected for previously recorded standing structures and shipwrecks in order to limit this search to the area immediately surrounding the project item. A narrower range was chosen for standing structures because assessments of individual buildings typically focus on relatively specific criteria related to immediate local conditions and events. The 1.6 km (1 mi) range for shipwrecks was selected because these types of cultural resources resulted from specific historical events.

Previously Cultural Resources Surveys Completed within 8 km (5 mi) of the Currently Proposed Bayou Sorrel Project Area

A total of eight previously completed cultural resources surveys and archeological inventories were identified within 8 km (5 mi) of the currently proposed Bayou Sorrel project area (Table 6). These investigations resulted in the identification of 206 archeological sites. Only three previously recorded sites (16IV3, 16IV23, and 16IV25) were identified within 1.6 km (1 mi) of the currently proposed project area (Table 7); while Site 16IV23 is positioned within the currently proposed study area, it lies outside of the examined project items (Figure 2). An additional survey (22-619) also was identified as having been conducted previously within 8 km (5 mi) of the proposed Bayou Sorrel project area; however, Survey 22-619 had been checked out of the Louisiana Division of Archaeology survey report library and it was not available for examination by researchers from R. Christopher

Table 6. Previously Completed Cultural Resources Surveys Conducted within 1.6 km (1 mi) of the Currently Proposed Project Area

FIELD DATE	REPORT NUMBER	TITLE/AUTHOR	INVESTIGATION METHODS	RESULTS AND RECOMMENDATIONS
IBERVILLE PARISH				
1980	22-752	*Cultural Resource Survey for Planning Area Number 2, Iberville Parish, Louisiana* (McIntire 1980a)	Records review, pedestrian survey, and limited shovel testing	No cultural resources were identified; however, it was recommended that an intensive field survey be completed prior to proposed construction.
1980	22-639	*Cultural Resource Survey for Planning Area Number 3, Iberville Parish, Louisiana* (McIntire 1980b)	Records review, pedestrian survey, and limited shovel/auger testing	No cultural resources were identified; however, it was recommended that an intensive field survey be completed prior to proposed construction.
1985	22-1007	*Cultural Resource Survey of Proposed Dredging for Canal Bayou Pigeon Field, Iberville Parish, Louisiana* (Frank 1985)	Records review, pedestrian survey, and auger testing	No cultural resources were identified; no additional testing was recommended.
1987	22-1192	*Cultural Resources Survey of the East Atchafalaya Basin Protection Levee, Item E-44, Iberville Parish, Louisiana* (Manning et al. 1987)	Records review, pedestrian survey, and shovel testing	Relocated two previously recorded sites (16IV4 and 16IV13) outside the proposed project area. No cultural resources were identified within the proposed project area and no additional testing was recommended.
MULTIPLE PARISHES				
Not reported	22-106	*Archeological Investigations Along the Gulf Intracoastal Waterway: Coastal Louisiana Area* (Gagliano et al. 1975)	Records review, boat survey, and pedestrian survey	Identified 158 prehistoric sites and 42 historic sites. Of these, 136 sites were assessed as significant while the significance of the remaining sites was unknown. Various types of additional testing was recommended for all the identified sites.
1978	22-366	*The Texas-Louisiana Ethylene (TLP) Project: Archeology* (McIntire n.d.)	Helicopter survey, windshield survey, boat survey, pedestrian survey, shovel testing, and auger testing	Identified two sites (the O'Brien Site located in Texas and Site 16AC21). Neither site was assessed; however, additional testing or avoidance of these sites was recommended.
1979 – 1980	22-619	*Archeology and Ethnology on the Edges of the Atchafalaya Basin, South Central Louisiana: A Cultural Resources Survey of the Atchafalaya Basin Protection Levees* (Gibson 1982)	Records review, pedestrian survey, probing, shovel testing, and auger testing.	Identified 33 sites of which 12 (16AV68, 16AV69, 16IV4, 16SM45, 16SM50, 16SM51, 16SMY2, 16SMY52, 16SMY104, 16SMY107, 16SMY130, and 16SMY166) were assessed as potentially significant. Additional testing of these 12 sites was recommended. The remaining 21 sites were assessed as not significant and no additional testing was recommended.
1993 – 1994	22-1797	*Cultural Resources Survey of EABPL Off-Site Borrow Areas, Levee Items E-64, E-76, and E-84a, Iberville, Iberia, and Assumption Parishes, Louisiana* (McMakin et al. 1994)	Records review, pedestrian survey, shovel testing, and limited unit excavation	Identified historic period Site 16IV23. The site was assessed as not significant and no additional testing was recommended.
1995	22-1926	*A Cultural Resources Survey from Sorrento, Louisiana to Mont Belvieu, Texas* (Skinner et al. 1995)	Records review, pedestrian survey, and limited shovel testing	No cultural resources were identified; no additional testing was recommended.

Table 7. Previously Recorded Sites Located within 1.6 km (1 mi) of the Currently Proposed Project Area.

SITE NUMBER	USGS 7.5' QUADRANGLE	SITE DESCRIPTION	CULTURAL AFFILIATION	FIELD METHODOLOGY	NRHP ELIGIBILITY	RECORDED BY
16IV3	Pigeon, LA	Prehistoric mound (destroyed by highway construction)	Possible Mississippian period	Unspecified type of collection and windshield survey	Not significant	Kniffen et al. 1987; Atchafalaya Basin Crew 1976; Frank 1985; Jones and Shuman 1987
16IV23	Pigeon, LA	Historic period materials scatter	ca. 1890+	Pedestrian survey, shovel testing, and unit excavation	Not significant	McMakin et al. 1994
16IV25	Pigeon, LA	Prehistoric shell midden overlain by historic period artifact scatter	Undetermined prehistoric period; mid 19th century historic period	Pedestrian survey	Not assessed	Bianchi et al. 1975

Goodwin & Associates, Inc. The eight surveys which were examined are presented here in chronological order by the parish in which they were conducted. Those surveys that extend through more than one parish are discussed at the end of the section.

Iberville Parish

During 1980, William McIntire conducted a Phase I cultural resources survey and inventory of a proposed sewer line right-of-way at the request of an unspecified party prior to construction of a sanitary sewer system within portions of Iberville Parish, Louisiana (McIntire 1980a). While the length of the proposed corridor was not reported, McIntire (1980a) stated that the proposed project right-of-way measured 7.6 m (25 ft) in width. Pedestrian reconnaissance augmented by limited shovel testing failed to identify any cultural resources within the project corridor; however, McIntire (1980a) recommended additional testing pedestrian survey and shovel testing of the proposed sanitary sewer line corridor prior to project construction.

Later that year, McIntire conducted a second Phase I cultural resources survey and archeological inventory of a proposed sanitary sewer system corridor located adjacent to Lower Grand River; the project corridor extended from northeast of the town of Bayou Sorrel to south of the community of Pigeon in Iberville Parish, Louisiana (McIntire 1980b). The survey was completed at the request of Simons J. Barry and Associates of Baton Rouge, Louisiana. The proposed right-of-way reportedly measured 7.6 m (25 ft) in width but the overall length of the proposed project corridor was not reported. Pedestrian survey augmented by limited shovel and auger testing failed to identify any cultural resources; however, McIntire (1980b) recommended that additional Phase I cultural resources survey, i.e., additional pedestrian survey and subsurface testing of the proposed sewer system right-of-way, be conducted prior to the proposed construction.

On March 23, 1985, Joseph Frank conducted a Phase I cultural resources survey and archeological inventory of a parcel located adjacent to the left descending bank of Lower Grand River within Section 25 of Township 11S, Range 11E, in Iberville Parish, Louisiana, at the request of C. L. Jack Stelly and Associates, Inc., of Lafayette, Louisiana. This investigation was performed prior to the proposed dredging of Canal Bayou Pigeon Field for use as a boat slip (Frank 1985). The overall size of the area subjected to survey was not reported, however, both pedestrian and the excavation of five auger tests failed to identify any cultural resources within the limits of the proposed project area. Frank (1985) noted that previously recorded Site 16IV3 reportedly was located immediately to the south of the proposed project area but it was not relocated as a result of that study. Following an interview with a local informant, Frank (1985) concluded that Site 16IV3 had been destroyed previously by the construction of Highway 75. No additional testing of the proposed project area or of Site 16IV3 was recommended. Site 16IV3 is located within 1.6 km (1 mi) of the currently proposed project area and it is discussed in greater detail below.

During 1987, R. Christopher Goodwin & Associates, Inc., conducted a Phase I cultural resources survey and archeological inventory of 13 project items associated with the proposed East Atchafalaya Basin Protection Levee Item E-44 in Iberville Parish, Louisiana (Manning et al. 1987); the overall project area was situated approximately 4.8 km (3 mi) north of the town of Bayou Sorrel. This investigation was conducted on behalf of the U.S. Army Corps of Engineers, New Orleans District, and it consisted of the detailed examination of 13 proposed borrow pits. Together, the project items measured 500 ac (202.4 ha) in area. Pedestrian survey augmented by shovel testing throughout the Areas of Potential Effect failed to identify any cultural resources within the 13 proposed borrow areas No additional testing of the 13 proposed borrow pits was recommended.

Manning et al. (1987) reported that in addition to the cultural resources survey of the 13 proposed borrow areas, fieldwork also resulted in an examination of two previously recorded sites (16IV4 and 16IV13) which were located outside, but within the vicinity, of the then proposed project items. In addition, an unsuccessful attempt was made to relocate previously recorded Site 16IV15. Cultural resources survey of Sites 16IV4 and 16IV13 consisted of pedestrian survey as well as the preparation of a sketch map

of each of the sites. Neither of these sites are located within 1.6 mi (1 mi) of the currently proposed Bayou Sorrel project area.

Multiple Parishes

In June 1975, Coastal Environments, Inc., performed an archeological investigation along the Gulf Intracoastal Waterway of Coastal Louisiana for the U.S. Army Corps of Engineers, New Orleans District (Gagliano et al. 1975). The survey consisted of a pedestrian walkover of an approximately 60 m (200 ft) wide corridor that extended for 504 km (315 mi) along the Gulf Intracoastal Waterway (GIWW) and selected spurs located at various bayou crossings. During survey, 158 prehistoric and 42 historic sites were identified. Of the 158 prehistoric sites recorded, 78 were found as exposures along banks or in spoil piles. Since the Gulf Intracoastal Waterway (GIWW) already had been constructed at the time of survey, Gagliano et al. (1975) provided management recommendations for the exposed sites. Treatment plans for five categories of sites were established based on the relative degree of damage expected at each cultural resource locus. Only five of the sites (16CM20, 16JE36, 16JE56, 16OR57, and 16OR58) were determined to be "very important" with immediate salvage excavation recommended. An additional nine sites (16CU19, 16IB112, 16IV4, 16LF36, 16LF78, 16SM6, 16SM14, 16SMY19, and 16SMY132) were determined to be "important" with additional shovel testing recommended should the Intracoastal Waterway be expanded. A majority of the sites (16AS19, 16AS20, 16CU15, 16CU125, 16CU126, 16CM58, 16CM75, 16CM77, 16CM78, 16IB110, 16IB111, 16JE53 - 16JE55, 16LF75 - 16LF77, 16LF79 - 16LF81, 16OR41, 16OR53, 16OR55, 16SMY44, 16SMY125 - 16SMY130, 16SMY134, 16TR62, 16TR84, 16TR87, 16VM33, and 16VM35 - 16VM37) identified by Gagliano et al. (1975) were determined to be "moderately important," with limited testing recommended if the waterway ever is expanded. None of the sites identified by Gagliano et al. (1975) are located within 1.6 km (1 mi) of the currently proposed project area.

Between January and February, 1978, William McIntire completed a Phase I cultural resources survey and archeological inventory of the proposed Texas-Louisiana Ethylene (TLP) Project pipeline corridor beginning near the town of Mont Belvieu, Texas and extending approximately 239.8 km (149 mi) in an easterly direction before terminating at the Napoleonville and Bayou Choctaw salt domes in an unspecified Louisiana parish (McIntire n.d.). McIntire (n.d.) did not report the width of the proposed pipeline corridor, nor did he state for whom the survey was conducted. It was reported that the entire length of the proposed pipeline corridor was examined during a helicopter fly over. Helicopter survey was augmented by limited pedestrian survey, windshield survey, boat survey, shovel testing, and auger testing of portions of the proposed right-of-way. McIntire (n.d) reported that two sites (the O'Brien Site located within Texas and Site 16AC21) were identified within the proposed right-of-way. Although additional testing of these sites was recommended, neither was assessed. Both of these sites are situated well beyond the vicinity of the currently proposed project area.

During 1993 and 1994, Earth Search, Inc., conducted a Phase I cultural resources survey and archeological inventory of three proposed borrow pits (Items E-64, E-75, and E-84a) located in the vicinity of the East Atchafalaya Basin Protection Levee at the request of the U. S. Army Corps of Engineers, New Orleans District (McMakin et al. 1994). Item E-64 was situated adjacent to the right descending bank of Lower Grand River in Iberville Parish, Louisiana, while Item E-75 was located in Iberia Parish, Louisiana, along the right descending bank of Little Goddel Bayou. The final project item (Item E-84a) reportedly was situated in Assumption Parish just south of the town of Pierre Part. Overall, a total of 195 ac (78.9 ha) were subjected to cultural resources survey.

Pedestrian reconnaissance augmented by systematic shovel testing resulted in the identification of Site 16IV23 within the proposed Item E-64 project area. McMakin et al. (1994) reported that no additional cultural resources were identified within the two remaining project items. Cultural material recovered from shovel tests excavated at Site 16IV23 included 107 oyster shell fragments, 1 glass shard, 1 piece of slag, 1 brick fragment, 3 historic period ceramic sherds, and 15 coal fragments. In addition, a single unit measuring 0.5 x 0.5 m (1.6 x 1.6 ft) in

size was excavated at Site 16IV23 and it resulted in the collection of 3 historic period ceramic sherds, 6 glass shards, 12 brick fragments, 2 pieces of metal, 1 animal tooth, 76 oyster shell fragments, 3 *Rangia* shell, and 2 fragments of coal. Most of this cultural material was recovered from depths ranging from 0 - 30 cmbs (0 - 11.8 inbs). McMakin et al. (1994) suggested that Site 16IV23 dated from the late nineteenth century. Site 16IV23 was assessed as not significant and no additional testing of the site was recommended. Site 16IV23 is located within the current Area of Potential Effect and it is discussed in greater detail below.

During September and October of 1995, AR Consultants of Dallas, Texas, conducted a Phase I cultural resources survey and archeological inventory of a proposed pipeline right-of-way that extended from Sorrento, Louisiana, to Mont Belvieu, Texas. This archeological investigation was conducted on behalf of the Concha Chemical Pipeline Company (Skinner et al. 1995). Within the Louisiana portion of the study area, the proposed project route passed through portions of Ascension, Iberville, St. Martin, Lafayette, Acadia, Jefferson Davis, and Calcasieu Parishes, which the majority of was collocated within existing rights-of-way. Skinner et al. (1995) did report, however, that an additional 18.3 m (60 ft) of new right-of-way was required to construct the proposed pipeline. Pedestrian survey augmented by shovel testing failed to identify any cultural resources within the then-proposed project corridor. No additional testing of the proposed pipeline right-of-way was recommended.

Previously Recorded Archeological Sites Located within 1.6 km (1 mi) of the Currently Proposed Bayou Sorrel Project Area

A total of three previously recorded archeological sites (16IV3, 16IV23, and 16IV25) were identified within 1.6 km (1 mi) of the currently proposed Bayou Sorrel project area (Table 7). Site 16IV3 was described as a prehistoric period mound, while Site 16IV25 reportedly contained a prehistoric period shell midden overlain by an historic period artifact scatter. The final site (16IV23) was described as an historic period artifact scatter. Each site is discussed in site number order below.

Site 16IV3 was identified adjacent to the east bank of the Grand River approximately 1.3 km (0.8 mi) north of its intersection with Little Bayou Pigeon and in Section 25 of Township 11S, Range 11E. The site originally was recorded by Kniffin, Beecher, Russel and Hunter in 1937. Subsequently, site record update forms were completed by The Atchafalaya Basin Crew in 1976 as well as by D. C. Jones and M. K. Shuman in 1987. Site 16IV3 was described as a prehistoric, square shaped temple mound which reportedly measured 7.6 m (25 ft) square by 1.2 m (4 ft) in height. It also was noted that an unspecified type of field survey carried out in 1937 resulted in the collection of cultural material; however, the types and quantities of the artifacts collected was not reported. Later examinations of Site 16IV3 found that the mound had been destroyed by the construction of Highway 75 during the mid 1960s. It was suggested that Site 16IV3 represented a Mississippian - Plaquemine period cultural affiliation. Due to the disturbance caused by highway construction, Site 16IV3 was assessed as not significant and no additional testing of the site was recommended.

Site 16IV23 was recorded in 1994 by Todd McMakin (McMakin et al. 1994). The site was identified within Section 24 of Township 11S, Range 11E, and it was described as scatter of historic period cultural material. Site 16IV23 reportedly measured 15 x 20 m (49.2 x 65.6 ft) in area and it was ovoid in configuration. Pedestrian survey augmented by shovel testing and the excavation of a single 0.5 x 0.5 m (1.6 x 1.6 ft) test unit resulted in the recovery of historic period ceramic sherds, metal, machine parts, brick, glass shards, coal, slag, an animal tooth, and oyster and *Rangia* shell. It was noted that cultural materials were recovered to a depth of 30 cmbs (11.8 inbs). McMakin suggested that Site 16IV23 represented an Industrial - Modern (ca. 1890+) era occupation but the presumed function of the site was not determined. Site 16IV23 was assessed as not significant and no additional testing of the site was recommended. Site 16IV23 is situated within the currently proposed Area of Potential Effect.

Site 16IV25 was identified adjacent to the right bank of Bayou Teche at its intersection with Little Bayou Pigeon within Section 26 of Township 11S, Range 11E. The site was re-

corded by Bianchi, Collins, and Servello in 1975 and it was described as a shell midden overlain by an historic period materials scatter. Site 16IV25 reportedly measured 20 x 20 m (65.6 x 65.6 ft) in size. Pedestrian survey resulted in the collection of unspecified types of shell and faunal material as well as prehistoric ceramic sherds, brick, glass bottles, historic period ceramic sherds, and metal. It also was reported that an examination of the cut bank revealed that the shell midden measured 10 cm (3.9 in) in thickness and that it was covered by 10 - 15 cm (3.9 - 5.9 in) of recent alluvium. While the cultural affiliation of the prehistoric period component was undetermined, it was suggested that the historic period component represented a mid nineteenth century occupation. Site 16IV25 was not assessed but additional testing to determine the extent of the site was recommended.

Previously Recorded Standing Structures Located within 1.6 km (1 mi) of the Currently Proposed Bayou Sorrel Project Area

A review of the standing structure files housed at the Louisiana Department of Culture, Recreation and Tourism, Office of Cultural Development, Division of Historic Preservation, resulted in the identification of a single previously recorded building within 1.6 km (1 mi) of the currently proposed Bayou Sorrel project area. Standing Structure 23-267 was recorded by Chris Airriess in 1983 and it was situated within Section 22 of Township 10S, Range 11E near the community of Bayou Sorrel. While the style of the structure was undetermined, it was reported that the structure originally was utilized as a trapper's cabin.

Standing Structure 23-267 was described as a single story, frame building with a tin covered ridge roof. The floor supports were fashioned from cut cypress logs. The residence may have been constructed ca. 1930, and Airriess also noted that the ruins of a small saw mill and two cisterns were associated with the structure. The building and associated activity areas were not assessed and no recommendations concerning additional recordation of the structure were reported. It should be noted that Standing Structure 23-267 does not appear on the current version of the Bayou Sorrel (1992) 7.5' U.S. Geological Survey topographical quadrangle. This suggests that the structure may have been removed sometime between its initial recordation in 1983 and 1992.

Previously Recorded Shipwrecks Located within 1.6 km (1 mi) of the Currently Proposed Bayou Sorrel Project Area

As a part of the current review, a search of *A Database of Louisiana Shipwrecks* (Clune and Wheeler 1991) also was conducted. This examination identified four vessels believed to have sunk within 1.6 km (1 mi) of the currently proposed Bayou Sorrel project area. While the name of one of these boats was unknown, the remainder was listed as the *Panola*, the *Gray Eagle*, and the *G. W. Anderson*. The *Panola* reportedly was lost in 1842 due to a snag. The *Gray Eagle* also was snagged and lost in 1850. While the date the G. *W. Anderson* sank and the cause of its demise was unknown, it was reported that the vessel was removed from the area in 1894. The named vessel reportedly was lost in 1982 due to an unspecified cause. No information regarding the possible significance of any of the vessels was noted in *A Database of Louisiana Shipwrecks* (Clune and Wheeler 1991).

CHAPTER VI

RESEARCH DESIGN AND FIELD METHODOLOGY

Introduction

This chapter describes the research design and field methodologies used to complete the Phase I cultural resources survey and archeological inventory of the proposed Bayou Sorrel project item. It also includes information pertaining to the curation of all records, photographs, and field notes generated as a result of this investigation.

Project Description

The U.S. Army Corps of Engineers, New Orleans District, plans to replace the extant Bayou Sorrel Lock with a new lock. In addition, modifications may be made to the existing East and West Calumet Flood Gates, the Charenton Floodgate, and the Berwick and Bayou Boeuf Locks. As part of the cultural resources component of this undertaking, a Phase I cultural resources survey and archeological inventory was authorized to assess three separate tracts; these totaled 356.8 ac (144.4 ha) in size. Each of the three project items was assessed as having a high probability for containing cultural resources by archeologists on staff with the U.S. Army Corps of Engineers, New Orleans District.

The overall project area is located in the Atchafalaya Basin, a region characterized by fairly level topography that varies in elevation from only 1.5 to 3.0 m (5 to 10 ft) NGVD. The three survey items, which are situated to either side of Bayou Sorrel and west of the East Intracoastal Waterway, can be characterized as narrow, natural levee and floodplain deposits. Geological data indicate that the natural levee deposits are underlain by backswamp deposits and that these deposits date from late in the Holocene epoch.

Predictive Modeling

As outlined previously in Chapter II, information pertaining to the geomorphology of the project items, especially data pertaining to the age and the type of landform, can serve as a model for predicting the likelihood of encountering cultural resources during survey. Throughout prehistory and history, habitation in the Atchafalaya Basin region largely has been determined by the availability of elevated, dry landforms, i.e., natural levees. Since geomorphological data indicates that no natural levees were present in the project area between 12,000 and 5,000 years ago, sites dating from the Paleo-Indian stage and the Early and Middle Archaic periods are not anticipated. Between 5,000 and 3,500 years ago, natural levees may have developed along Lower Grand River, but data indicates that the river was not carrying sufficient quantities suspended sediments to facilitate large scale natural levee growth. As a result, sites dating from the Late Archaic period or from the Early Formative stages are possible but unlikely. Substantial natural levee growth along Lower Grande River probably did not occur until the period from about 2,000 to 1,000 years ago. This suggests that sites dating from the later Formative stages,

i.e., from the Troyville/Coles Creek, Marksville, Mississippian/Plaquemine periods, may be present in the project reach.

The distribution of historic period resources also is influenced by the natural setting of the project area. Since the Atchafalaya Basin contains a variety of exploitable natural resources, especially faunal and timber resources, historic period sites associated with various resource exploitation industries, such as hunting, fishing, trapping, and lumbering, are possible in each of the project items. Historic habitation sites are not expected, however, because most of the development in the immediate project vicinity has taken place since the construction of the East Atchafalaya Levee and the Bayou Sorrel Lock, i.e., during the twentieth century. Lastly, since Lower Grande River served as an important corridor for waterborne vessels, shipwrecks are likely to be present in the project vicinity. *A Database of Louisiana Shipwrecks* (Clune and Wheeler 1991) lists four known wrecks (the *Panola*, the *Gray Eagle*, the *G. W. Anderson*, and an unknown ship) within 1.6 km (1 mi) of the project reach.

Research Design

The current investigation incorporated background research across a broadly defined study area as well as Phase I cultural resources survey and archeological inventory of three discrete tracts that totaled 356.8 ac (144.4 ha) in size. Background research was undertaken to collect data on the natural, prehistoric, and historic settings of the project area as well as to identify all previously recorded cultural resources located in the immediate vicinity. Following the completion of the background research, a comprehensive cultural resources survey of each project item was undertaken. This investigation was designed to identify and to evaluate all cultural resources (archeological sites, cultural resources loci, standing structures, cemeteries, and traditional cultural properties) situated within the Areas of Potential Effect. Fieldwork consisted of pedestrian survey augmented with systematic shovel and judgmental auger testing throughout the limits of each project item.

Field Methodology

Prior to survey, a review of the published soil survey data for Iberville Parish, Louisiana, was conducted (Spicer et al. 1976). This review indicated that the majority of the acreage associated with each of the three project items (approximately 87 percent) contains soils identified as Convent or Fausse. These are loam and clay soils that typically occur on nearly level land. Convent soils are flooded from December through July; during the remainder of the year, the water table in these areas fluctuates from the ground surface to approximately 0.6 m (2 ft) below surface. Similarly, Fausse soils are inundated from December through June; once the floodwaters recede, the water table fluctuates from 0.2 to 0.6 m (0.5 to 2.0 ft) below surface. Other portions of the project area (approximately 13 percent) are underlain by soils described as Sharkey clay, frequently flooded. These soils occur along the lower portions of the natural levees and they are composed predominantly of clay. Like Convent soils, Sharkey clay soils are inundated from December through July; the water table in these areas fluctuates from the ground surface to approximately 0.6 m (2 ft) below surface during the remainder of the year.

A review of the soil survey data suggested that the water table in each survey tract lies at depths no greater than 0.6 m (2 ft) below surface. As a result, fieldwork within each project item consisted of pedestrian survey augmented with systematic shovel testing; systematic auger testing was not conducted. Shovel tests were excavated at 20 m (65.6 ft) intervals throughout the length and width of each project item along survey transects spaced 20 m (65.6 ft) apart. Shovel tests excavated along adjacent transects were offset to maximize coverage throughout each survey tract. Of the 3,427 shovel tests planned during survey, 3,377 (98.5 percent) were excavated as part of this investigation. In addition, judgmental auger testing was conducted within the limits of each project item; 20 auger tests were excavated as a result of this undertaking. No cultural resources were identified during the Phase I survey.

Each shovel test measured approximately 30 cm (11.8 in) in diameter, and each was excavated

to a depth of 70 cm (19.7 in), to sterile clay or to clay-like subsoil, or until excessive amounts of ground water hindered the excavation process. Each auger test measured approximately 6 cm (2.4 in) in diameter, and was excavated to a maximum depth of 2 mbs (meters below surface) (6.6 ftbs [feet below surface]). All shovel/auger test fill was screened through 0.64 cm (0.25 in) hardware cloth; extremely wet soils and clays were hand-sifted, trowelled, and examined visually for cultural material. Each shovel/auger test was excavated in 10 cm (3.9 in) artificial levels within natural strata, and the fill from each level was screened separately. Typically, water was encountered 2 mbs (6.6 ftbs). Munsell Soil Color Charts were used to record soil color; soil texture and other identifiable characteristics also were recorded using standard soils nomenclature. Each shovel/auger test was backfilled immediately upon completion of the archeological recordation process.

Additional Survey Area

As part of the current investigation, personnel from R. Christopher Goodwin & Associates, Inc., attempted to relocate previously recorded Site 16IV23. This site is located within the overall study area, but it lies outside of the three project items currently under discussion. Site 16IV23 originally was identified by Todd McMakin in December 1993 and the site was described as a scatter of historic period cultural material (McMakin et al. 1994). Site 16IV23 was assessed as not significant applying the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Goodwin & Associates, Inc., attempted to relocate Site 16IV23 to collect additional information pertaining to this resource. While shovel testing in the site vicinity was planned to assess the stratigraphic placement, density, and research potential of this site, visual inspection of the area revealed that Site 16IV23 has been destroyed by borrowing activities associated with the construction of the extant East Atchafalaya Basin Protection Levee. Consequently no additional shovel testing was conducted at the site. A Louisiana Site Update form for Site 16IV23 was prepared and it is included as Appendix II of this report.

Architectural Review and Standing Structures Recordation

As a part of this Phase I cultural resources assessment, an attempt was made to record all historic period standing structures lying within or immediately adjacent to the project items. Since the currently proposed lock modification project has the potential to disturb or destroy historic properties, the purpose of the architectural recordation process was to: (1) collect reconnaissance-level architectural survey data for each building older than 50 years of age located within the Area of Potential Effect; (2) apply the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]) to each recorded resource; and, (3) apply the Advisory Council on Historic Preservation's Criteria of Effect to each historic property to anticipate the effects of this undertaking on each identified structure. In addition, the survey considered impacts to any significant viewsheds. All architectural investigations were undertaken in accordance with guidelines established in *National Register Bulletin 24: Guidelines for Local Surveys: A Basis for Preservation Planning* (National Park Service 1995).

The architectural survey was accomplished by inspecting each building identified along or within each of the three project items. Four standing structures were identified and recorded within Area 1. Black and white and/or color photographs (35mm) were taken of all identified built resources 50 years in age or older within or adjacent to the proposed Areas of Potential Effect. Architectural data collected included building form, building material(s), and decorative features. Field notes recorded the character of the surrounding area, including vegetation present, overall landscape, and the presence of man-made obstructions.

Curation

Following acceptance of the final cultural resources inventory report, all records, photographs, and field notes will be curated with the:

State of Louisiana
Department of Culture, Recreation, and Tourism
Division of Archaeology
P.O.Box 44247
Baton Rouge, Louisiana 70804-4247
(225) 342-8170

CHAPTER VII

RESULTS OF THE FIELD INVESTIGATIONS

The U.S. Army Corps of Engineers, New Orleans District, plans to replace the existing Bayou Sorrel Lock with a new lock. In addition, modifications may be made to the existing East and West Calumet Flood Gates, the Charenton Floodgate, the Berwick Lock and the Bayou Boeuf Lock. As part of the cultural resources component of this project, a Phase I cultural resource survey and archeological inventory was conducted within three separate tracts totaling 144.4 ha (356.8 ac) in size (Figure 2). Fieldwork included pedestrian reconnaissance augmented by stratified, systematic, subsurface testing throughout each project item. In addition, one previously recorded cultural resource (Site 16IV23), located within the study area but outside of the areas under examination, was revisited and assessed.

Fieldwork was conducted along a series of linear transects spaced approximately 20 m (65.6 ft) apart. To facilitate control during the survey process, two of the three project items (Areas 2 and 3) were subdivided into smaller, more manageable areas (Table 8). As a result of this investigation, 3,377 of 3,427 (98.5 percent) planned survey shovel tests were excavated successfully throughout the three project items. As discussed in Chapter VI, a preliminary review of the published soil survey data for Iberville Parish, Louisiana, indicated that a majority of the high probability portions of the project area (approximately 87 percent) are associated with soils identified as Convent and Fausse. The water table in these areas fluctuates from the ground surface to approximately 0.6 m (2 ft) below surface. Since it was likely that the water table in each survey tract would be encountered at depths no greater than 0.6 m (2 ft) below surface, shovel testing was performed to a depth of 0.7 m (2.3 ft) or until water was encountered. In addition, 20 judgmentally placed auger tests were excavated adjacent to a dry drainage bed identified within Area 3A.

This Phase I investigation resulted in the identification of four standing structures older than 50 years in age (see Figure 2, Sheet 1; Table 9). Standing Structure forms were prepared and subsequently submitted to the Louisiana Division of Historic Preservation, Department of Culture, Recreation and Tourism, Office of Cultural Development. Copies of these site forms appear in Appendix I. None of the four standing structures identified during survey pos-

Table 8. Areas Examined during Survey of the Proposed Bayou Sorrel Lock Replacement Project.

AREA NUMBER	HECTARE/ ACREAGE	SHOVEL TESTS (EXCAVATED/ PLANNED)	STANDING STRUCTURES IDENTIFIED
1	29ha/72ac	318/331	BS1-2, 3, 4, 5
2A	4.9ha/12.2ac	139/146	None
2B	4.8ha/11.9ac	130/133	None
3A	80ha/198ac	2087/2094	None
3B	25.5ha/63ac	703/723	None

Table 9. Standing Structures Older than 50 Years in Age Identified during Survey.

STRUCTURE NUMBER	ADDRESS	DATE	BUILDING FUNCTION	STYLE	SUBTYPE/ DESCRIPTION	NHRP ELIGIBILITY
24-896	34075 Bayou Sorrel Rd.	Early to Mid-20th Century	Domestic	Vernacular	Front-gable	Not Eligible
24-897	34105 Bayou Sorrel Rd.	Early to Mid-20th Century	Domestic	Shotgun	Front-gable	Not Eligible
24-898	34105B East Ave.	Early to Mid-20th Century	Domestic	Vernacular	Front-gable	Not Eligible
24-899	34105A East Ave.	Early to Mid-20th Century	Domestic	Vernacular	Front-gable	Not Eligible

sessed the qualities of significance as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]) criteria for evaluation.

The following discussion describes the results from the Bayou Sorrel Lock Replacement Project area. The proposed project items are described first, followed by a discussion of the four historic period standing structures identified as a result of this undertaking. In addition, new data concerning the National Register significance of previously recorded Site 16IV23 appears near the end of this chapter.

Area 1

Area 1 is located approximately 1.8 km (1.13 mi) southeast of the Town of Bayou Sorrel, Louisiana. The project item is bordered to the east by the Intracoastal Waterway and the East Atchafalaya Basin Protection Levee to the west (Figure 2, Sheet 1 and Figure 10). The project item extends into the E ½, of the NE ¼, of the NE ¼ and the NE ¼, of the SE ¼, of the NE ¼ of Section 3, of Township 11S, Range 11E and in the center of the SE ¼, of the SE ¼ of Section 34, of Township 10S, Range 11E. This rectangular tract of land encompasses an area that measures approximately 29 ha (72 ac) in size. Area 1 is located within a fairly level floodplain that can be characterized as a wooded lot with a small, rural settlement positioned near its southern end.

Fieldwork at this locale consisted of pedestrian reconnaissance augmented by systematic subsurface testing throughout this portion of the Area of Potential Effect. A total of, 318 of 331 (96 percent) planned shovel tests were excavated successfully throughout the Area 1 project item. A typical survey shovel test extended to a depth of 70 cmbs (27.6 inbs) and it exhibited two strata in profile (Figure 11). Stratum I was characterized as a layer of (10 YR 3/1 to 10 YR 4/1) very dark to dark gray clay that extended from 0 to 15 cmbs (0 to 5.9 inbs). Stratum I was underlain by Stratum II, a layer of (10 YR 5/6) light brown silty loam to (7.5 YR 5/6) strong brown silty clay. Differences in soil profiles can be attributed to the heavy impaction of the area by dredging and spoil activity.

Area 1 has been impacted heavily by prior dredging activities associated with the clearing

Figure 10. An overview of Area 1 facing east.

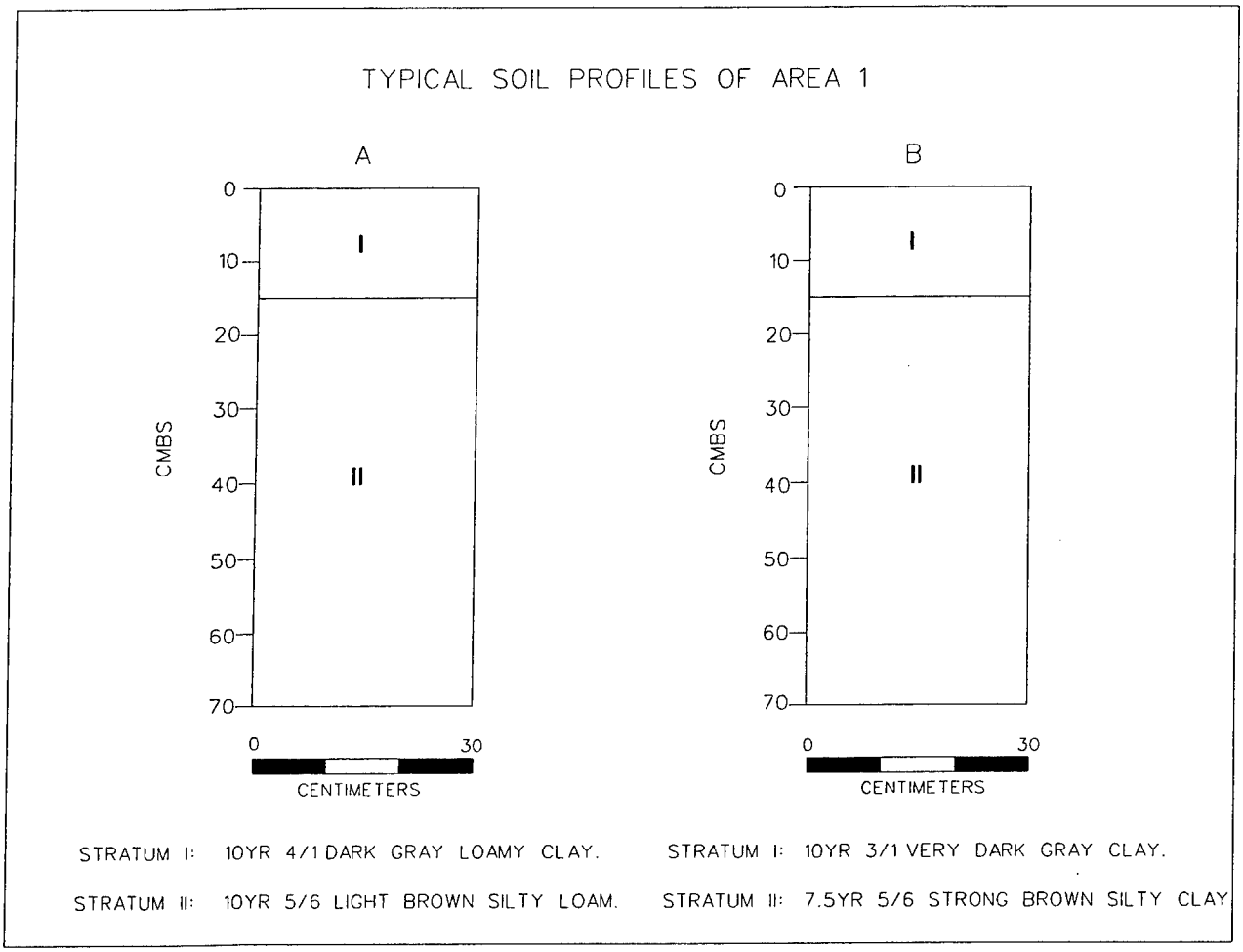

Figure 11. **Two typical shovel test profiles for Area 1.**

of Bayou Sorrel and/or the Intracoastal Waterway. Dredge material has been deposited throughout the entire project parcel. During surface reconnaissance of the Area 1 project item, several scatters of modern debris, including bottles and cans, were noted across the surface of this project item. Furthermore, visual examination of Area 1 identified four standing structures, older than 50 years in age; each was positioned at the southern end of the project area (24-896, 24-897, 24-898, and 24-899) and each is discussed below. These four standing structures did not possess the qualities of significance as defined by the National Register of Historic Places (36 CFR 60.4 [a-d]) criteria for evaluation. No additional testing of Area 1 is recommended.

Standing Structures

As a result of this Phase I cultural resources investigation, four newly recorded (24-896, 24-897, 24-898, and 24-899) standing structures older than 50 years in age were identified within Area 1 (see Figure 2, Sheet 1; see Table 9). These included two structures identified along Bayou Sorrel Road and two structures identified along East Road, in Bayou Sorrel, Louisiana. These dwellings have the potential to be impacted physically as a result of this undertaking, furthermore, they may suffer limited but temporary visual impacts associated with the proposed construction. Each of the standing structures is described in turn below.

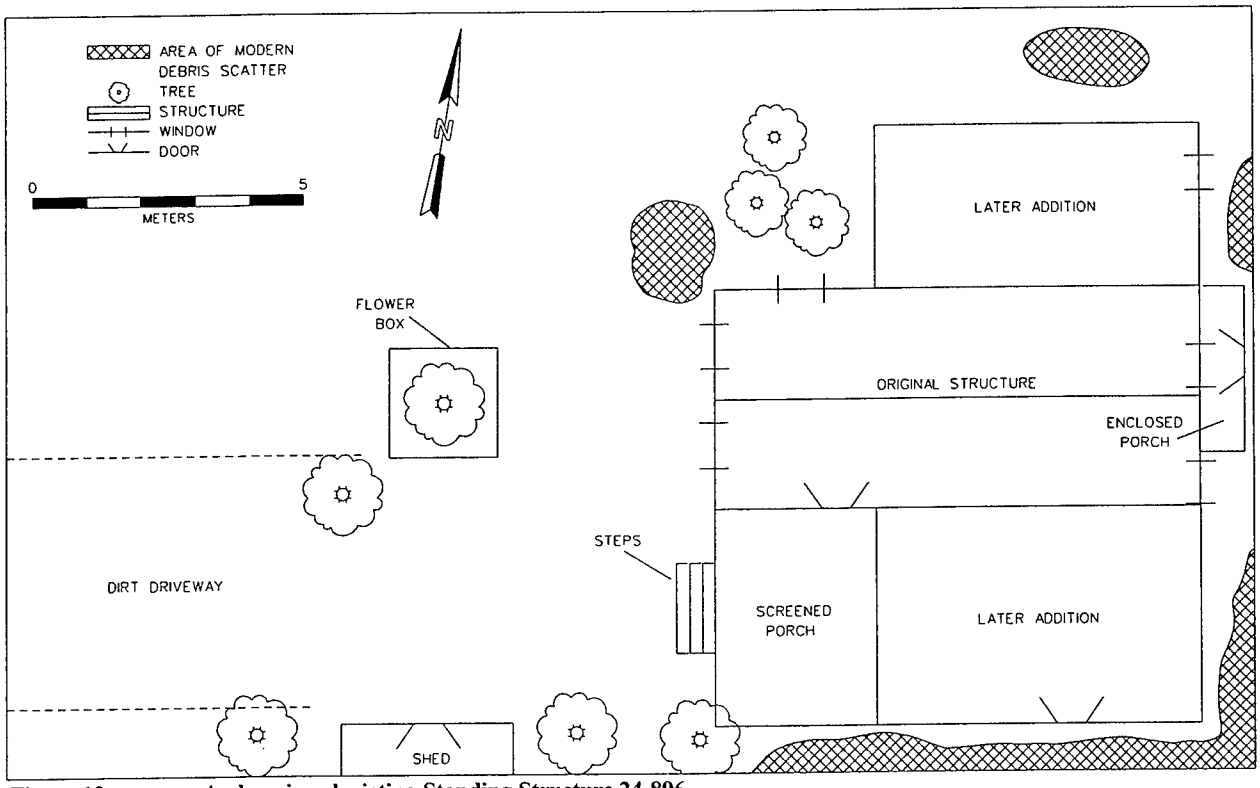

Figure 12. A plan view depicting Standing Structure 24-896.

Standing Structure 24-896 (BS1-2)

Standing Structure 24-896 is positioned at 34075 Bayou Sorrel Road in Section 2, of Township 11S, Range 11E (Figure 12). The building is situated in the southern end of Area 1 and it consists of an early to mid-twentieth century front-gable, vernacular dwelling (Figure 13). Standing Structure 24-896 contains a concrete block pier foundation, vertical board siding, double-hung 6/6 windows and one addition. This addition extends along the entire length of the southern side of the structure and it provides a screened, entrance verandah and an enclosed area desired to provide additional living space.

Standing Structure 24-896 represents a typical example of a locally common vernacular house type; it possesses no known historical associations of transcending importance and it is not architecturally unique. On the basis of its externally visible architecture, Standing Structure 24-896 does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of this structure is recommended.

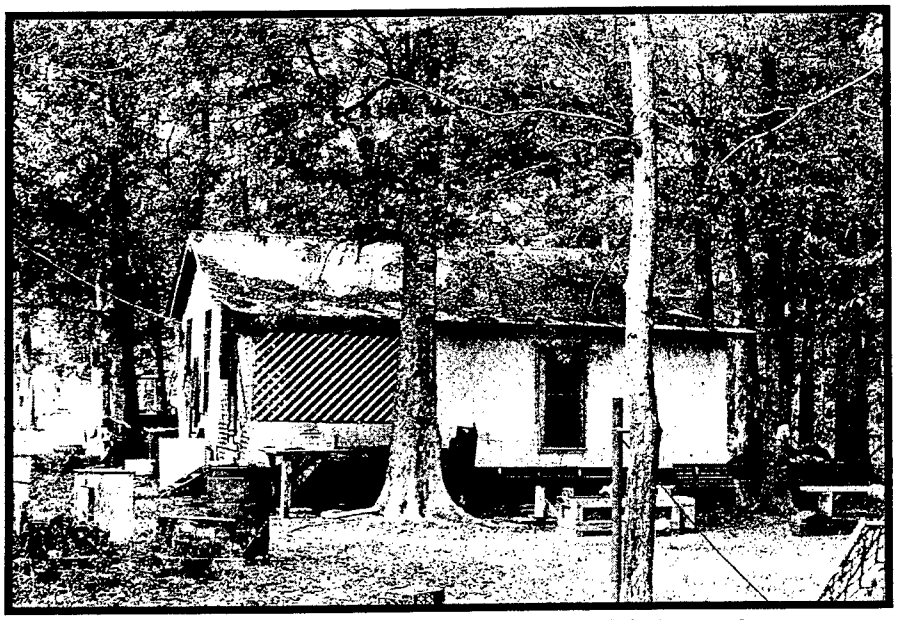

Figure 13. An overview of Standing Structure 24-896, facing north.

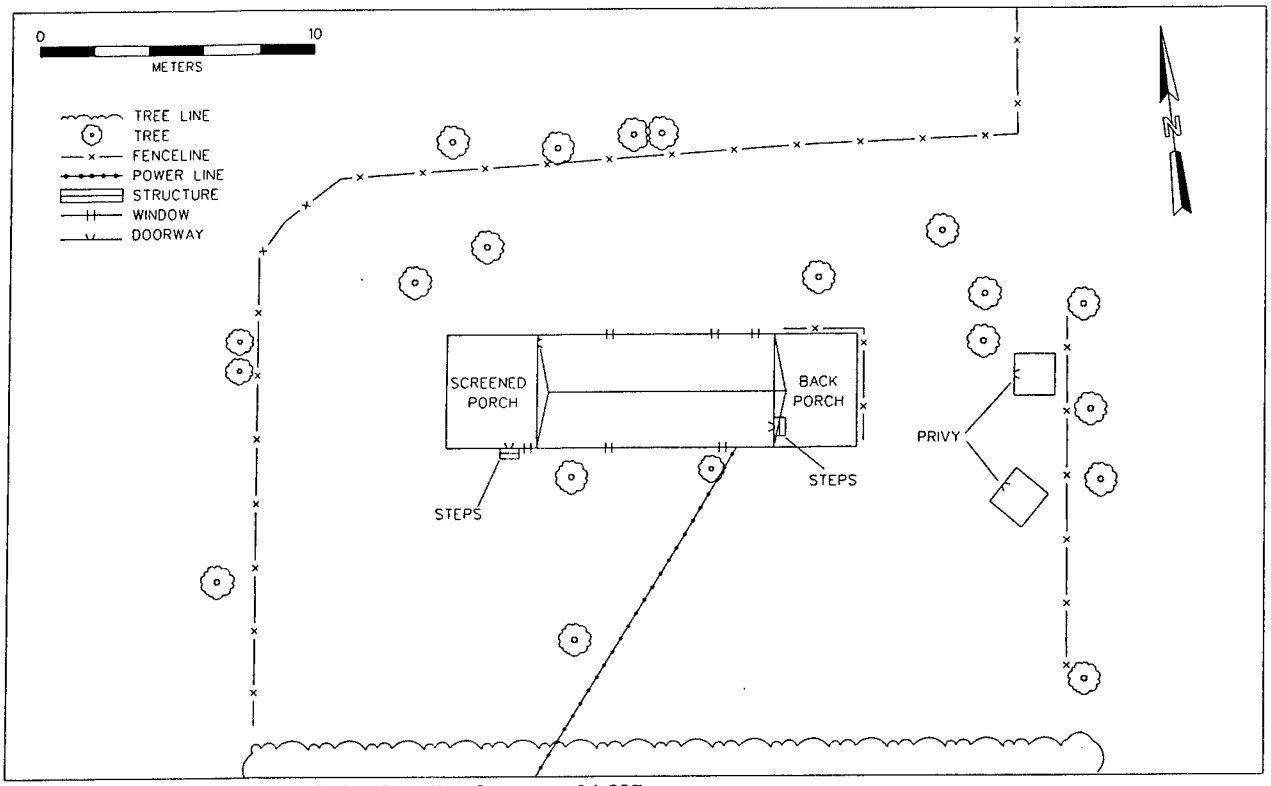

Figure 14. A plan view depicting Standing Structure 24-897.

Standing Structure 24-897 (BS1-3)

Standing Structure 24-897 is positioned at 34105 Bayou Sorrel Road in Section 2, of Township 11S, Range 11E (Figure 14). The building is situated in the southern end of Area 1 and it can be characterized as an early to mid-twentieth century front gable shotgun dwelling (Figure 15). Standing Structure 24-897 contains a concrete block pier foundation, vertical board siding, double-hung 6/6 windows and two porches with flat roofs situated to either end of the structure.

Standing Structure 24-897 represents a typical example of a shotgun house type. It possesses no known historical associations of transcending importance and it is not architecturally unique. On the basis of its externally visible architecture, Standing Structure 24-897 does not possess the qualities of significance as defined by

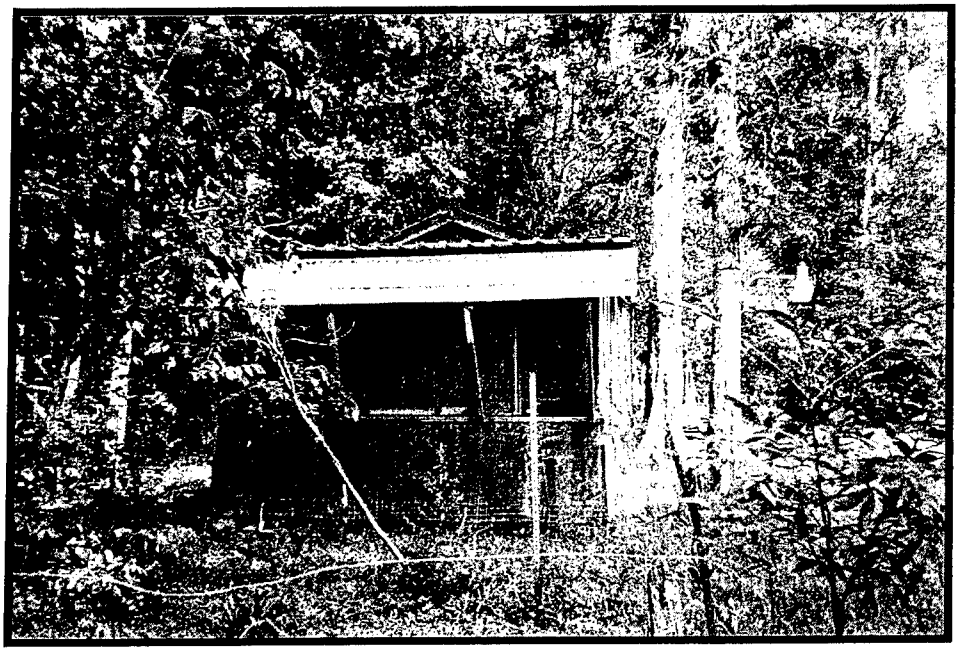

Figure 15. An overview of Standing Structure 24-897 facing east.

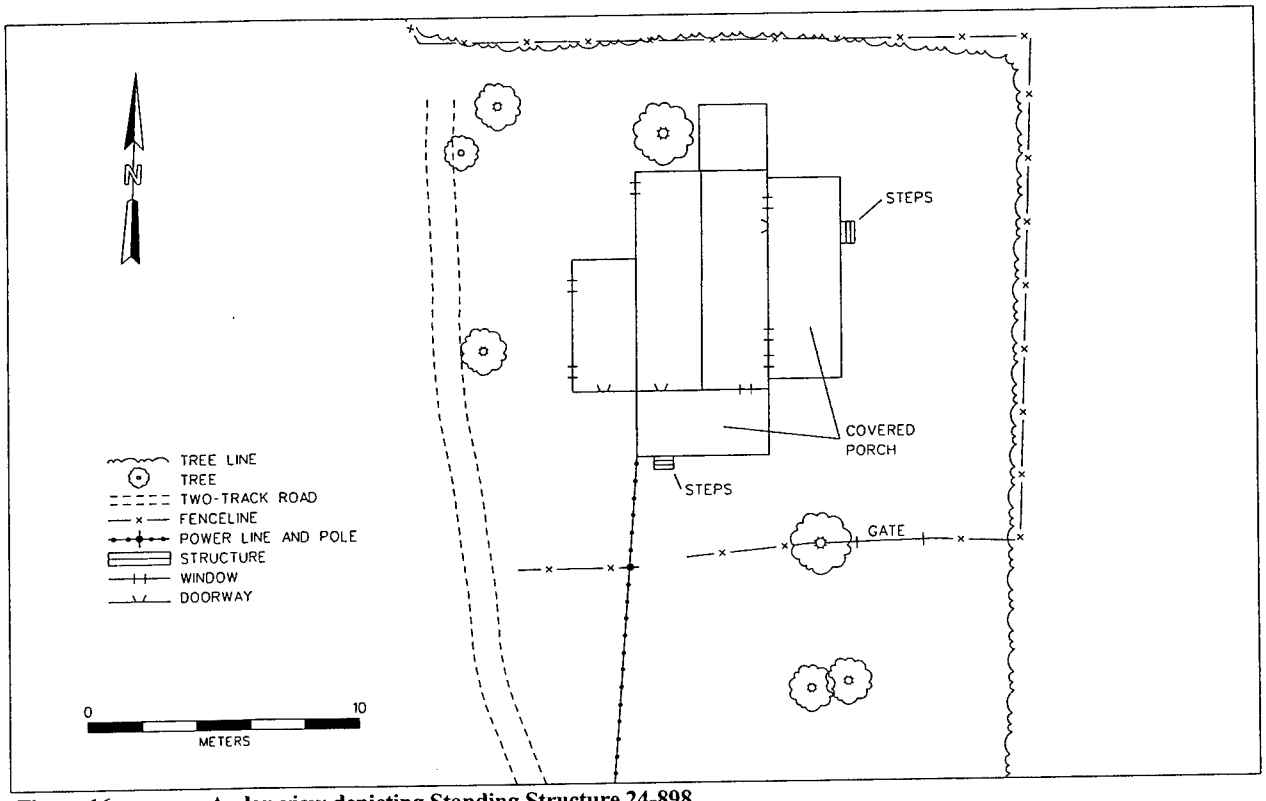

Figure 16. A plan view depicting Standing Structure 24-898.

the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of this structure is recommended.

Standing Structure 24-898 (BS1-4)

Standing Structure 24-898 (BS1-4) is located at 34105B East Avenue in Section 2, of Township 11S, Range 11E (Figure 16). The building is situated in the southern end of Area 1 and it consists of an early to mid-twentieth century front-gable, vernacular dwelling (Figure 17) block pier foundation, vertical board and asphalt shingle siding, double-hung 6/6 windows, and two open porches and one addition. The enclosed addition was added to the western side and it extends approximately half the entire length of the structure; it has a flat roof and vertical board siding.

Standing Structure 24-898 represents a typical example of a locally common vernacular house type. It possesses no known historical associations of tran-

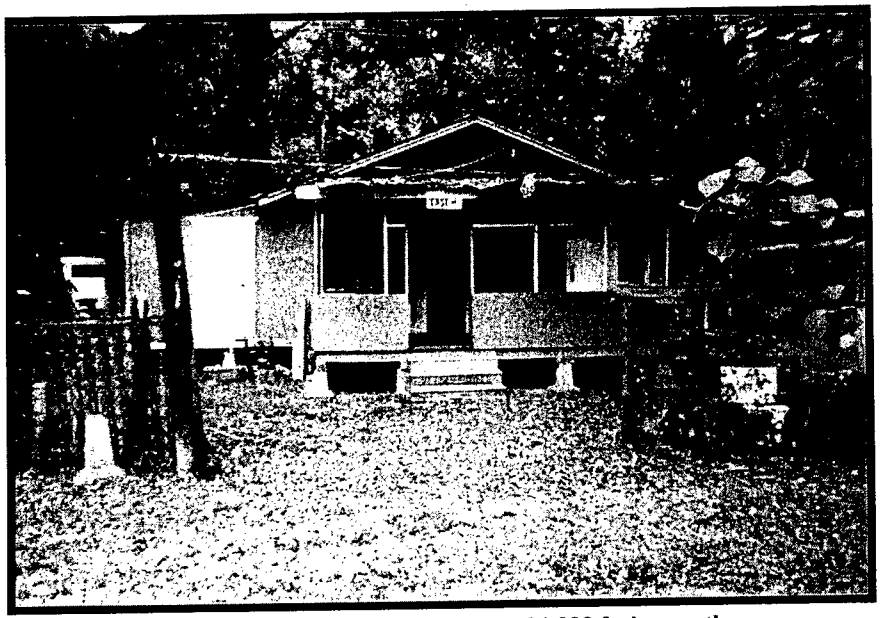

Figure 17. An overview of Standing Structure 24-898 facing north.

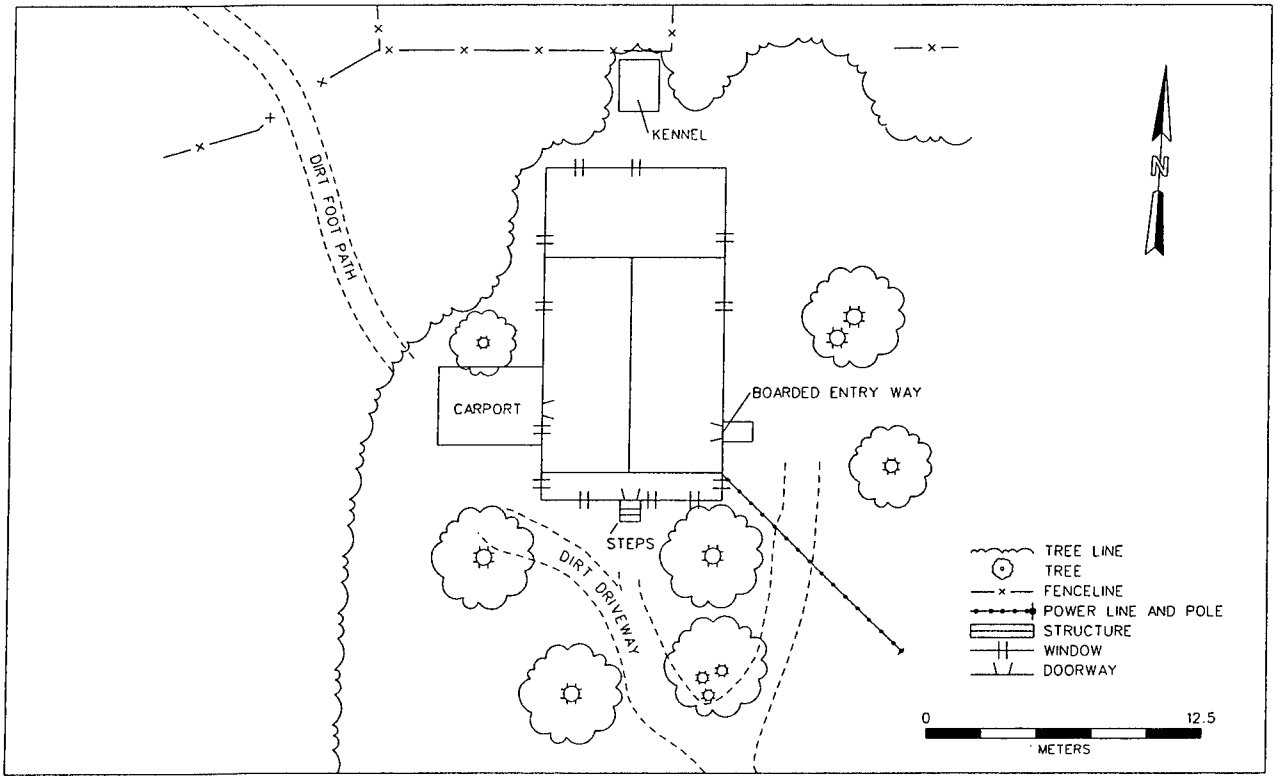

Figure 18. A plan view depicting Standing Structure 24-899.

scending importance and it is not architecturally unique. On the basis of its externally visible architecture, Standing Structure 24-898 does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of this structure is recommended.

Standing Structure 24-899 (BS1-5)

Standing Structure 24-899 (BS1-5) is positioned at 34105A East Avenue in Section 2, of Township 11S, Range 11E (Figure 18). The building is located at the southern end of Area 1 and it can be characterized as an early to mid-twentieth century front gable vernacular dwelling (Figure 19). Standing Structure 24-899 contains a concrete block pier foundation, vertical board and asphalt shingle siding, double-hung 6/6 windows, an enclosed porch, a carport and it has had one addition made to the rear of the structure. The addition covers the width of the structure, and it has weatherboard siding and a flat roof.

Standing Structure 24-899 represents a typical example of a locally common vernacular

Figure 19. An overview of Standing Structure 24-899 facing west.

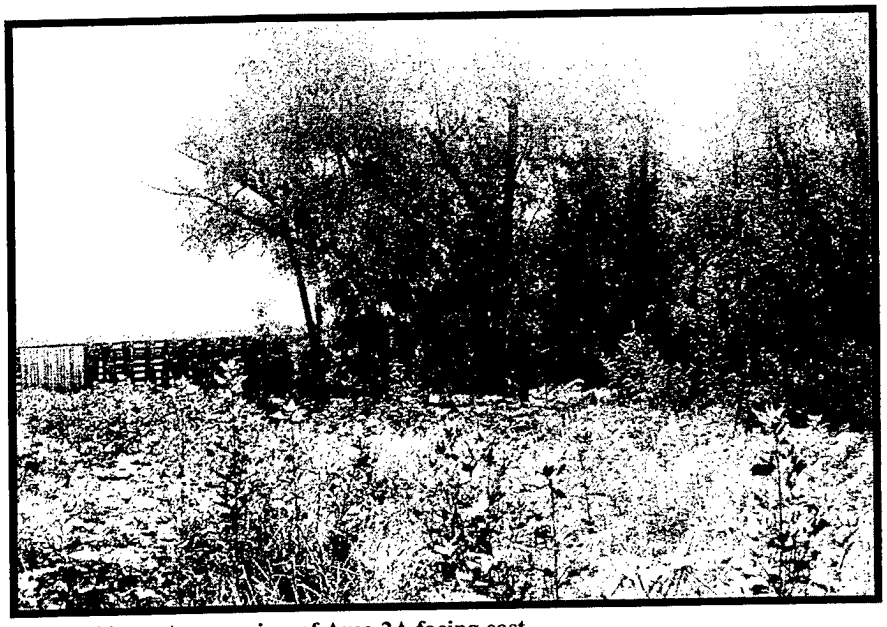

Figure 20. An overview of Area 2A facing east.

house type. It possesses no known historical associations of transcending importance and it is not architecturally unique. On the basis of its externally visible architecture, Standing Structure 24-899 does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of this structure is recommended.

Area 2

Area 2 was located directly south of the Bayou Sorrel Lock and it was divided by the constructed entrance for the Intracoastal Waterway. In total, this area covered 9.7 ha (24 ac) of land that has been impacted by construction, dredging and spoil disposal activities. To facilitate control during this survey, Area 2 was subdivided into two smaller, more manageable areas (Area 2A and Area 2B). These project items are discussed below. No cultural resources were identified during survey of Area 2. No additional testing of the Area 2 project item is recommended.

Area 2A

Area 2A was located directly south of the Bayou Sorrel Lock, and it was situated on the peninsula between the Intracoastal Waterway and the Bayou Sorrel Lock. This project item was located in the NW ¼, of the NW ¼ of Section 11, of Township 11S, Range 11E (Figure 2, Sheet 2 and Figure 20). This triangular tract of land measured approximately 4.9 ha (12.2 ac) in size. The overall project area was fairly level and heavily wooded. A variety of cypress, maple, pine and sycamore trees were noted during survey. Fieldwork at this locale consisted of both pedestrian reconnaissance and systematic subsurface testing.

During survey, 139 of 146 (95.2 percent) planned shovel tests were excavated successfully throughout the Area 2A project item. A typical survey shovel test extended to a depth of 70 cmbs (27.6 inbs) and it exhibited two strata in profile (Figure 21). Stratum I was characterized as a layer of 10 YR 4/2 dark gray brown silty clay that typically extended to a depth of 30 cmbs (11.8 inbs). It was underlain by Stratum II, which con-

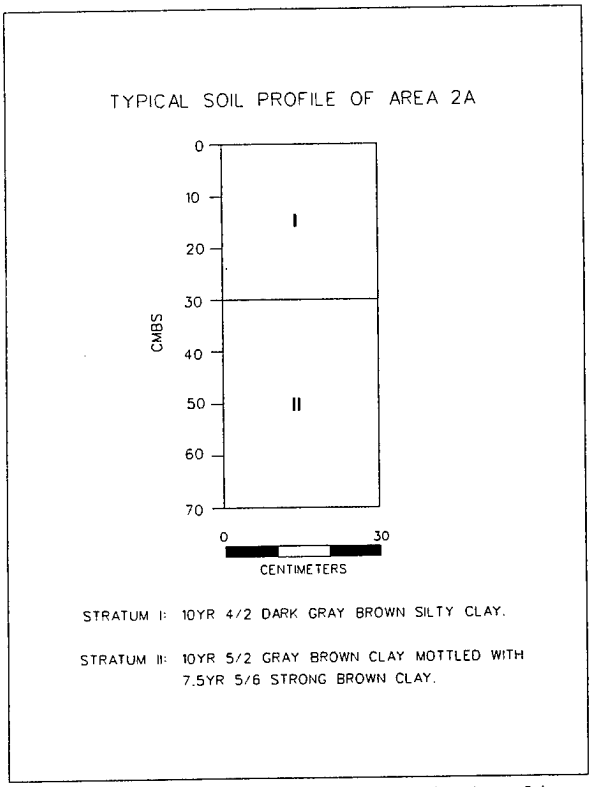

Figure 21. A typical shovel test profile for Area 2A.

sisted of a layer of 10 YR 5/2 gray brown clay mottled with 7.5 YR 5/6 strong brown clay. This area also has been impacted heavily by prior dredging and the disposal of dredge spoil.

Visual examination of Area 2A identified several locations where previous levee construction and the construction of the Bayou Sorrel Lock had impacted heavily the Area 2 project item. In addition, spoil has been placed across the entire project area. No cultural resources loci were identified during survey of the Area 2A project item. No additional testing of Area 2A is recommended.

Area 2B

Area 2B was located directly south of the Bayou Sorrel Lock; it was situated on narrow strip of land bounded on the west by the entrance to the Bayou Sorrel Lock, and to the east by the East Atchafalaya Basin Protection Levee. The area was located in the W ½, of the E ½, of the NW ¼ and the NE ¼, of the NW ¼, of the NE ¼, of the SW ¼ of Section 11, of Township 11S, Range 11E (Figures 2, Sheet 2 and Figure 22). This rectangular tract of land encompassed an area that measured approximately 4.8 ha (11.9 ac) in size. This portion of the Area 2 project item consisted primarily of an open, grassy lot situated on the batture side of the levee; the remaining portions of the project item were sparsely wooded. Fieldwork consisted of pedestrian reconnaissance augmented by systematic subsurface shovel testing.

During survey, 130 of 133 (97.7 percent) planned shovel tests were excavated successfully throughout the Area 2B project item. A typical survey shovel test extended to a depth of 70 cmbs (27.6 inbs); two typical soil profiles were defined and they exhibited one to two strata in profile (Figure 23). The first profile exhibited only a single stratum and it consisted of a layer of 10 YR 4/3 brown clay that extended from the surface to a depth of 70 cmbs (0 to 27.6 inbs). This profile type was located in a portion of the project area where stripping of the ground surface was evident. The second profile contained two strata. Stratum I was characterized as a layer of 10 YR 4/3 brown silty clay that extended from the sur-

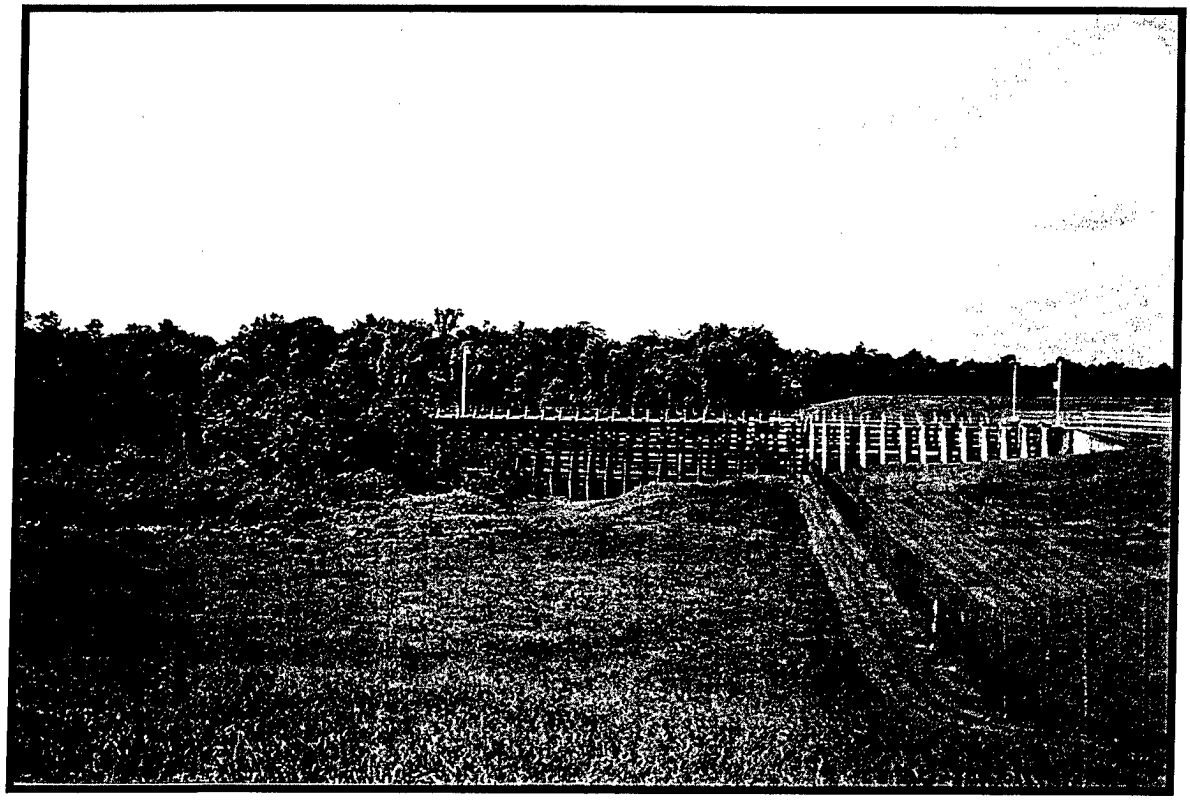

Figure 22. An overview of Area 2B facing west.

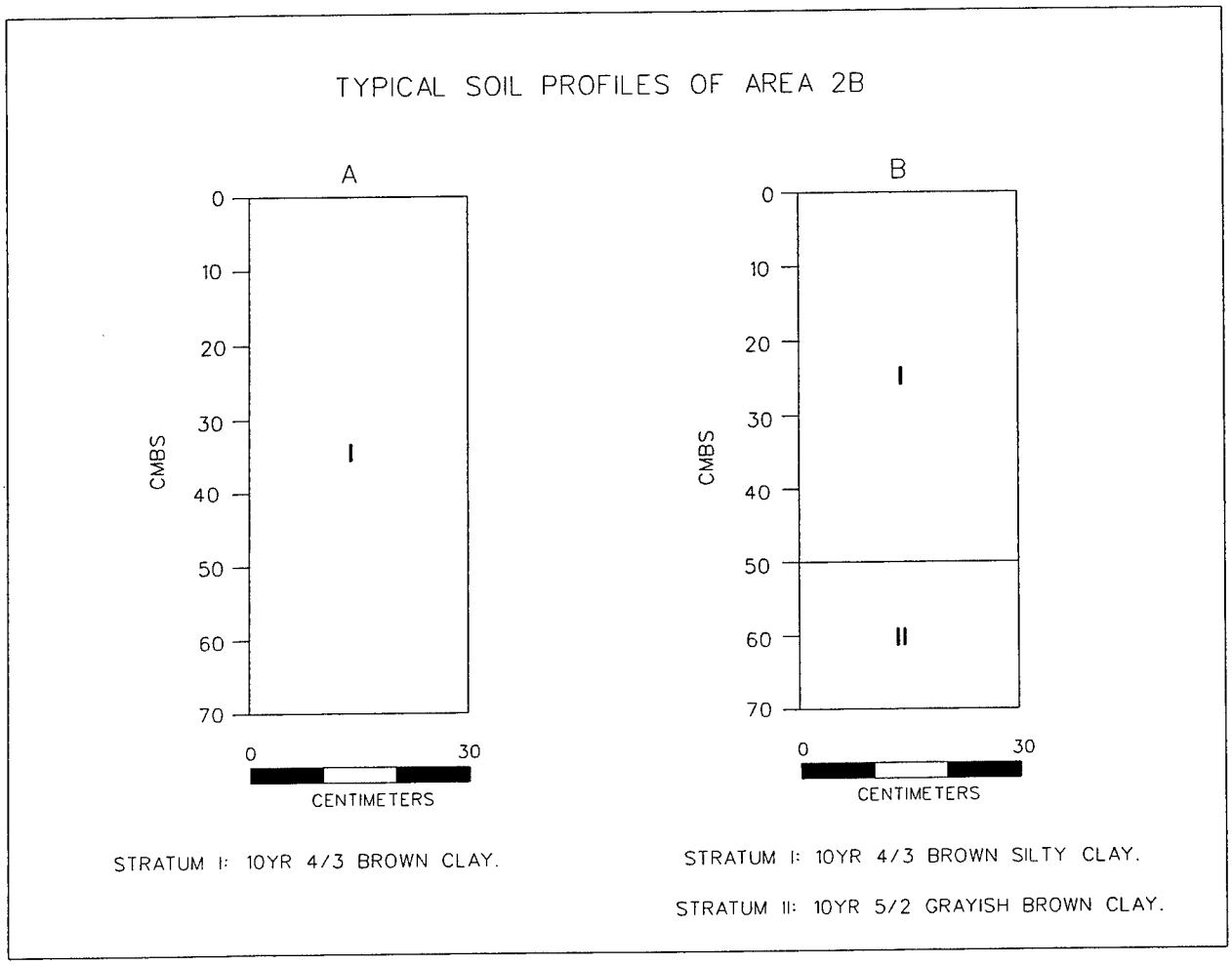

Figure 23. Two typical shovel test profiles for Area 2B.

face to 50 cmbs (0 to 19.7 inbs). It was underlain by Stratum II, 50 to 70 cmbs (19.7 to 27.6 inbs), a layer of 10 YR 5/2 grayish brown clay. Large portions of the project item have been impacted heavily by prior dredging and by the disposal of spoil. No cultural resources loci were identified within the Area 2B project item. No additional testing of Area 2B is recommended.

Area 3

The Area 3 project item was located within the Atchafalaya Basin Floodway, approximately 1.7 km (1.05 mi) southeast of the Town of Bayou Sorrel, Louisiana. In total, this area covered 106 ha (261 ac) of land that has been impacted by construction, dredging and spoil disposal activities. To facilitate control during the survey process, the proposed project item was subdivided into two smaller and more manageable areas (Area 3A and Area 3B); these are discussed below. No cultural resources were identified during survey of the Area 3 project item. No additional testing of Area 3 is recommended.

Area 3A

Area 3A was located within the Atchafalaya Basin Floodway, approximately 1.7 km (1.05 mi) southeast of the Town of Bayou Sorrel, Louisiana. The area was located in the E ½, of the E ½, of the NW ¼, and the W ½, of the NE ¼, and the W ½, of the SE ¼, and the E ½, of the NE ¼, of the SW ¼, and the W ½, of the SE ¼, of the SE ¼ of Section 3, of Township 11S, Range 11E. It was bounded by the Intracoastal Waterway to the east and an extant pipeline canal to the north (Figure 2, Sheets 1 and 2 and Figure 24). This rectangular tract of land encompassed an area that measured approximately 80 ha (198 ac) in size. Area 3A was described as

Figure 24. **An overview of Area 3A facing north.**

a seasonal floodplain and it was covered with wetland vegetation, which included cypress, live oak, willow and palmettos. Fieldwork at this locale consisted of systematic shovel testing augmented by pedestrian reconnaissance. In addition, judgmental auger testing was conducted along a dry drainage bed that crossed along the southern edge of the project area.

Fieldwork resulted in the excavation of 2,087 of 2,094 (99.6 percent) planned shovel tests. A typical shovel test excavated within Area 3A extended to a depth of 70 cmbs (27.6 inbs); two typical soil profiles were defined within the project item (Figure 25). The first soil profile exhib-

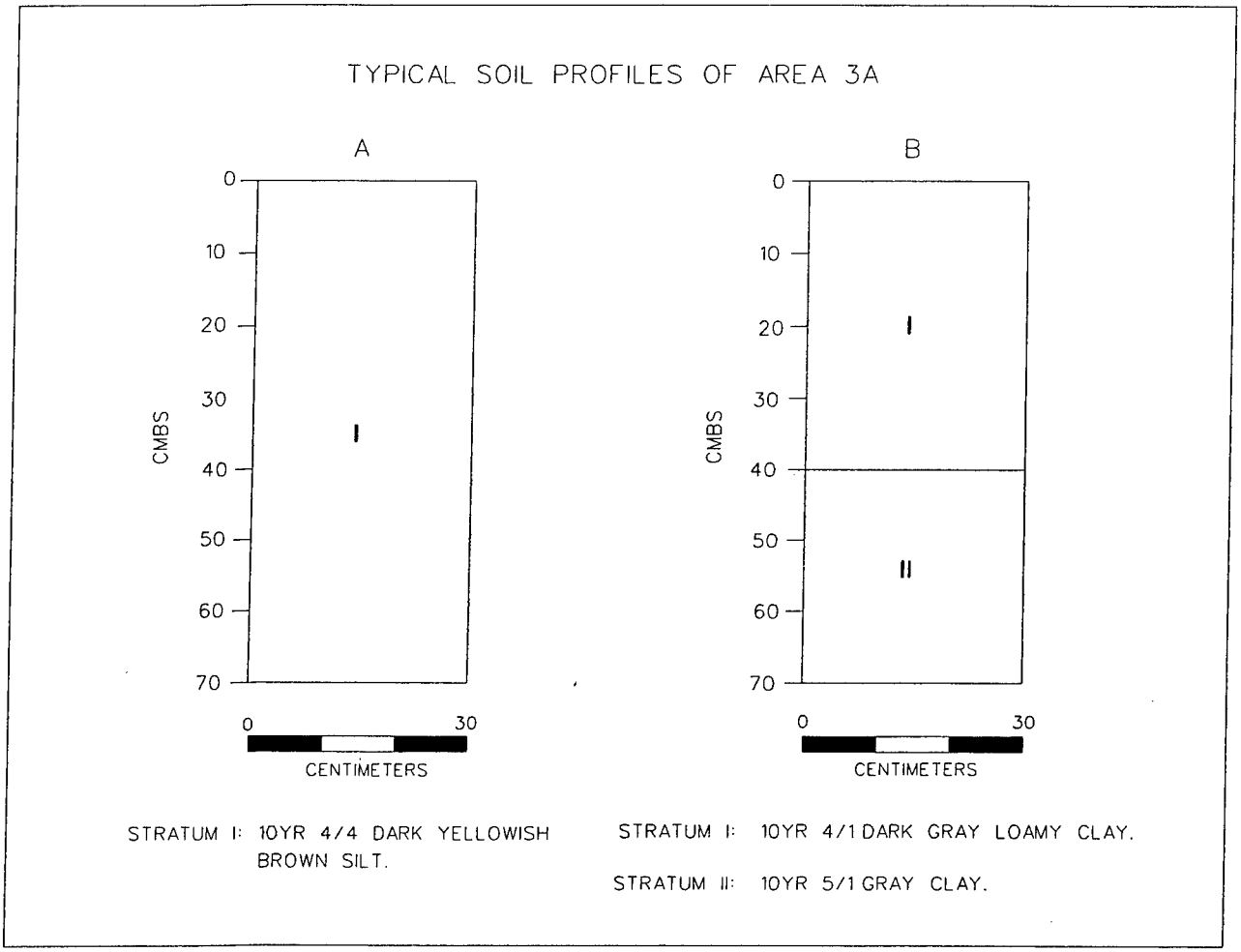

Figure 25. **Two typical shovel test profiles for Area 3A.**

ited only a single stratum; it consisted of a layer of 10 YR 4/4 dark yellowish brown silt that extended from the surface to a depth of 70 cmbs (0 to 27.6 inbs). This profile was typical of shovel tests excavated in the northern portion of the project item, i.e., on slightly higher ground with better drained soils. The second profile contained a layer of 10 YR 4/1 dark gray loamy clay that extended from 0-40 cmbs (0 to 15.7 inbs). Stratum I was underlain by Stratum II, a layer of 10 YR 5/1 gray clay that extended to from 40-70 cmbs (15.7 to 27.6 inbs). This second profile was typical of the poorly drained areas where the water table was higher and the area was inundated seasonally.

An additional 20 judgmentally placed auger tests were excavated along the bankline of a drainage or tributary that crossed through the southern portion of Area 3A. This intermittent stream acted as a natural drainage outlet for Bayou Sorrel. A typical auger test excavated along the drainage extended to a depth of 200 cmbs (78.7 inbs); and it exhibited three strata in profile (Figure 26). Stratum I consisted of a layer of dark grayish brown (10 YR 4/2) loamy clay that typically extended from 0 to 30 cmbs (0 to 11.8 inbs). Stratum II was characterized as a layer of light brownish gray (10 YR 6/2) clay that extended from 30 to 150 cmbs (11.8 to 59.1 inbs). It was underlain by Stratum III, which ranged from a layer of gray (10 YR 5/1) clay mottled with strong brown (7.5 YR 4/6) clay to a light gray (7.5 YR 7/1) clay with yellowish brown (10 YR 5/6) clay mottles.

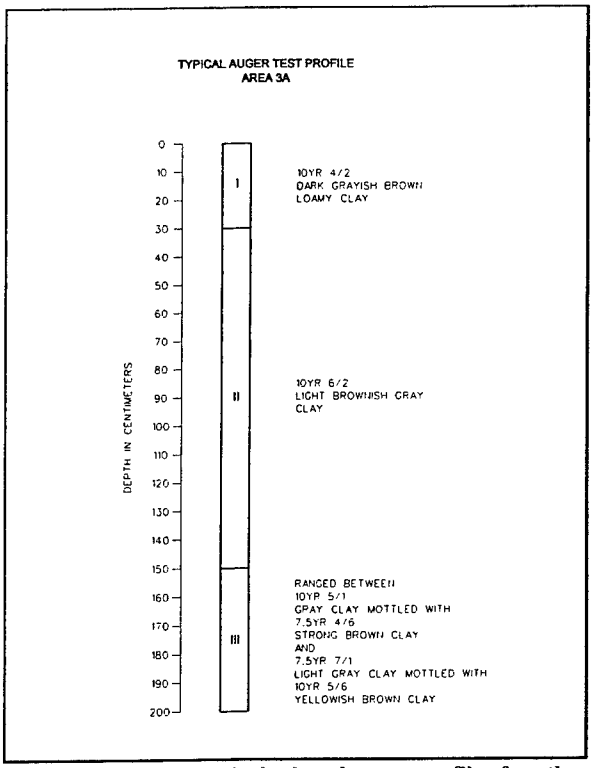

Figure 26. A typical shovel test profile for the judgmental auger tests.

During surface reconnaissance of the area, several scatters of modern debris including crawfish traps, fishing boats and beverage cans were noted across the surface of the project parcel. Pedestrian reconnaissance of the area confirmed that Area 3A has been disturbed heavily by seasonal flooding as evidenced by the high water marks visible on trees scattered throughout the project area. No cultural resources loci were identified within Area 3A. No additional testing of this portion of the project area is recommended.

Area 3B

Area 3B was located immediately opposite the Bayou Sorrel Lock, and west of the Intracoastal Waterway. The area was located in the W ½, of the NE ¼, and the NW ¼, of the NW ¼, of the SE ¼ of Section 10, of Township 11S, Range 11E. This project item adjoined the southern boundary of Area 3A, abutted a portion of an abandoned levee near the southeast edge and was bisected by a seasonally dry drainage bed (Figures 2, Sheet 2 and Figure 27). This triangular tract of land encompassed an area that measured approximately 25.5 ha (63 ac) in size. This seasonal floodplain was characterized by wetland vegetation that included cypress, scrub brush and palmetto. Fieldwork conducted at this locale included both systematic shovel testing augmented by pedestrian reconnaissance.

Of the 723 shovel tests planned, 703 (97.2 percent) were excavated during survey. A typical survey shovel test extended to a depth of 70 cmbs (27.6 inbs). During survey, two typical soil profiles were defined during the survey within Area 3B (Figure 28). The first profile described Stratum I as a layer of 10 YR 5/2 grayish brown clay that extended to a depth of 30 cmbs (0 to 11.8 inbs). It was underlain by Stratum II, a layer of (5B 6/1) bluish gray gley. This soil profile was typical of areas located in the northern portion of the project area, i.e., in a recently dried swamp

Figure 27. An overview of Area 3B facing west.

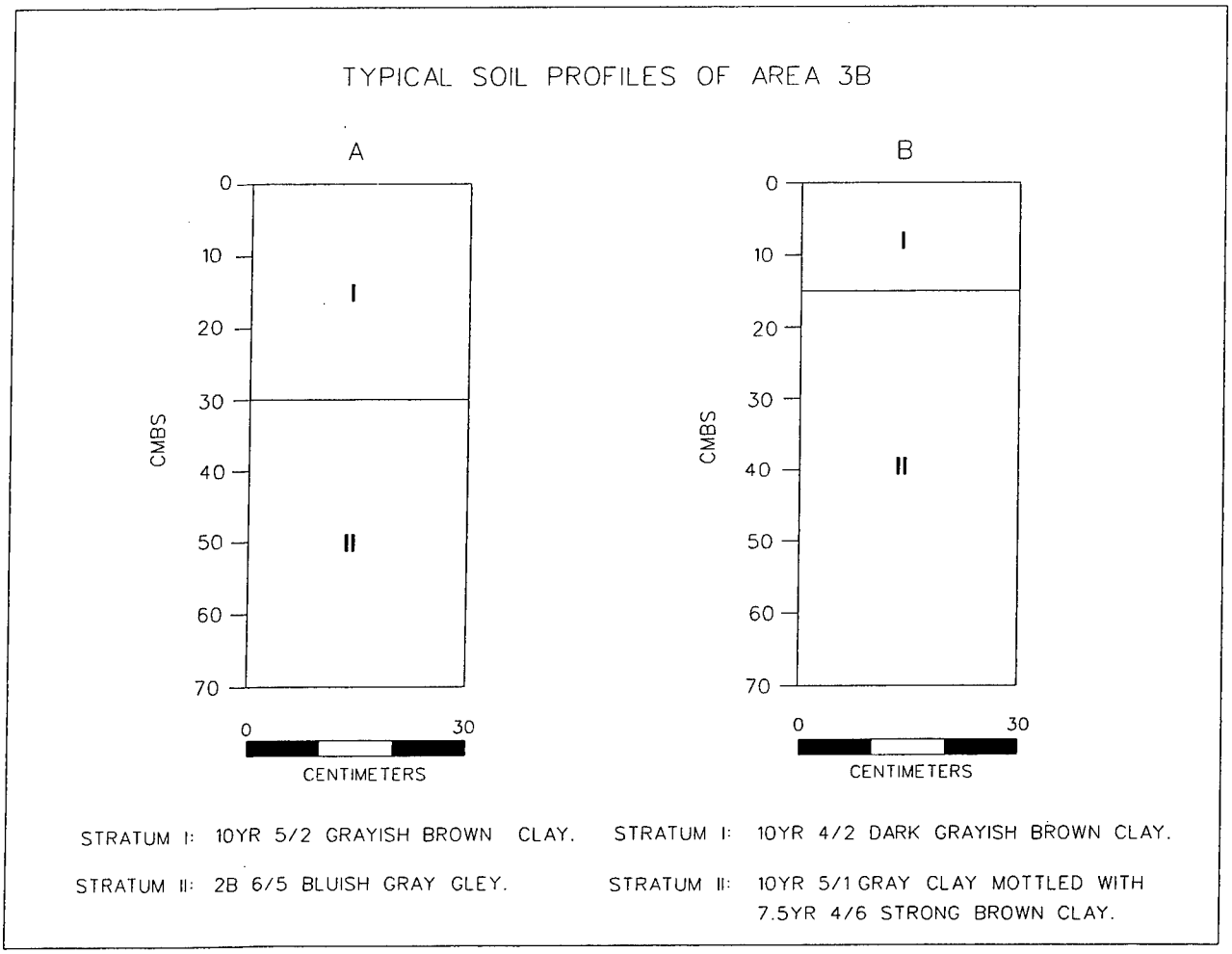

Figure 28. Two typical shovel test profiles for Area 3B.

area with extremely poorly drained soils. The second soil profile contained a layer of 10 YR 4/2 dark grayish brown clay (Stratum I) that typically extended from 0-15 cmbs (0 to 5.9 inbs). This stratum was underlain by Stratum II, which consisted of a layer of (10 YR 5/1) gray clay mottled with 7.5 YR 4/6 strong brown clay. This soil profile was typical of profiles found throughout the poorly drained areas, where the water table was high and the area was seasonally inundated.

During pedestrian reconnaissance of the area, several scatters of modern debris including crawfish traps, fishing boats and beverage cans were noted across the surface of the project parcel. Survey throughout the area confirmed that the area has been impacted by seasonal flooding as evidenced by the high water marks visible on trees throughout the project area. No cultural resources loci were identified as a result of this investigation. No additional testing of Area 3B is recommended.

Archeological Site Relocated within Iberville Parish

During survey, one previously recorded archeological site (Site 16IV23) was revisited and delineated during the current survey. This site was recorded by Todd McMakin in December 1993 during a cultural resources survey of the then-proposed East Atchafalaya Basin Protection Levee borrow pits (McMakin et al. 1994). The result of this survey is described below.

Site 16IV23

Site 16IV23 was identified by in December 1993 (McMakin et al. 1994) (see Figure 2, Sheet 3). The site was described as a scatter of historic period artifacts located in Section 24, of Township 11S, Range 11E (Figure 29). Site 16IV23 reportedly measured approximately 15 x 20 m (49.2 x 65.6 ft) in size. Pedestrian survey, shovel testing and unit excavations were completed throughout the site area. This work resulted in the recovery of a variety of historic period ceramics, metal, brick, glass fragments, one gear part, and oyster shell. All of the recovered material dated from the late nineteenth to the twentieth century. As a result of the 1993 survey, McMakin et al. (1996) determined that

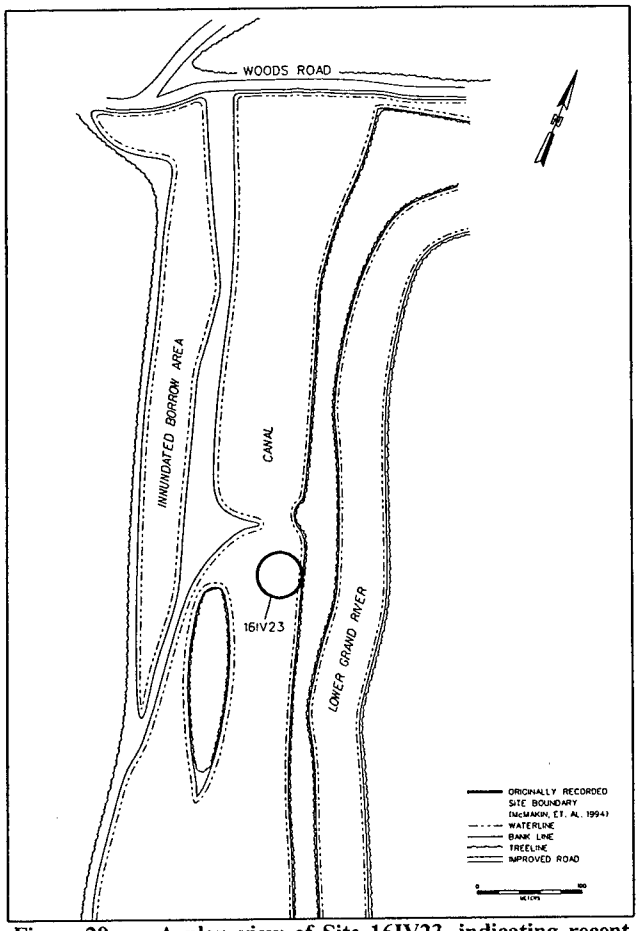

Figure 29. A plan view of Site 16IV23, indicating recent impacts to site area.

Site 16IV23 did not possess research potential or the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Site 16IV23 was recommended at that time.

Site 16IV23 was revisited in August 1999. The site, which had been situated on a natural levee between an unnamed creek and the Lower Grand River, was destroyed by borrow activities associated with the construction of the East Atchafalaya Basin Protection Levee (McMakin et al. 1994). This activity resulted in the removal of the fill that contained the cultural deposits and the subsequent inundation of the overall site area (Figure 30). No additional testing or recordation of this destroyed cultural resources is recommended.

Figure 30. An overview of Site 16IV23 facing southeast.

Summary

A total of four standing structures (24-896, 24-897, 24-898, and 24-899) older than 50 years in age were identified and one previously recorded historic site was revisited as a result of the Phase I cultural resources survey and archeological inventory of the proposed Bayou Sorrel Lock Replacement Project area. Despite intensive testing, no evidence of intact cultural deposits or research potential was identified in connection with the standing structures or the previously recorded archeological site. None of these standing structures, or the archeological site, possesses the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of these cultural resources is recommended.

CHAPTER VIII

SUMMARY AND RECOMMENDATIONS

Between September and October of 1999, a Phase I cultural resources survey and archeological inventory was completed within portions of the Areas of Potential Effect associated with the proposed Bayou Sorrel Lock Replacement Project area in Iberville Parish, Louisiana. This investigation was conducted on behalf of U.S. Army Corps of Engineers, New Orleans District, by R. Christopher Goodwin & Associates, Inc. This investigation resulted in the examination of 144.4 ha (356.8 ac) of the proposed Area of Potential Effect situated along Bayou Sorrel and the Intracoastal Waterway. Fieldwork included pedestrian survey augmented by systematic subsurface testing throughout the examined portions of the Area of Potential Effect.

This investigation resulted in the identification of four standing structures older than 50 years in age. Standing Structures 24-896, 24-897, 24-898, and 24-899 each were classified as typical examples of early to mid-twentieth century vernacular or shotgun dwellings. Each of these buildings was identified within the currently proposed Area of Potential Effect and each may be impacted by the proposed construction activities. The four structures, however, do not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional architectural recordation of the four standing structures is recommended.

In addition, previously recorded Site 16IV23 fell within the limits of the Area of Potential Effect and it was revisited as part of this investigation. The site, which had been situated on a natural levee between an unnamed creek and the Lower Grand River, has been destroyed by prior borrow activities associated with the construction of the East Atchafalaya Basin Protection Levee. This site does not possess the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). No additional testing of Site 16IV23 is recommended.

In summary, no significant or potentially significant cultural resources were identified during survey of the Bayou Sorrel Lock Replacement Project. No additional testing of these three project items is recommended.

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Walter Allen, 1987

APPENDIX I

STATE OF LOUISIANA STANDING STRUCTURE FORMS

Louisiana Historic Resource Inventory

Louisiana Division of Historic Preservation
Office of Cultural Development
Department of Culture, Recreation and Tourism

Resource ID Number: [ ][ ]-[ ][ ][ ][ ][ ]-[ ]
parish resource #

☐ Addendum Attached

Location and Geographic Information

Name of Property: John & Marylin Romig

Address: 34105 A East Ave **Parish:** Iberville

Locality: ☐ City ☐ Community ☐ Vicinity ☒ Rural

City/Community/Vicinity of...: Bayou Sorrel, LA

Topographic Quad: Bayou Sorrel, LA 1992 **Quad Size:** ☒ 7.5 ☐ 15

UTM: [15]-[661240]-[3335380] (zone – easting – northing)

R 11 E (range) T 11 E (township) 2 (section)

Owner Name: SAA

Owner Address: _____ **Tax Parcel:** _____

Property Information

Type: ☐ Site ☐ Structure ☒ Building ☐ Object

Level of Recognition: ☐ NHL ☐ NR individual ☐ NR district/element ☐ DOE ☐ Local ☒ None

Previously Surveyed: ☐ Yes ☒ No **When, Located Where?:** _____

Government Preservation Activity: ☒ Section 106 ☐ Grant ☐ Tax Credit ☐ Local Ord. ☐ Other

HABS/HAER: ☐ Yes ☒ No **NR eligibility:** ☐ Potential individual ☐ Potential district ☒ Ineligible

Condition: ☐ Excellent ☐ Good ☒ Fair ☐ Poor ☐ Ruin

Remark: _____

Integrity: ☐ Unaltered ☐ Altered (Historic) ☒ Altered (Non-Historic)

Remark: _____

Threats: ☐ Abandonment ☐ Neglect ☐ Alteration ☐ Development ☒ Government Action ☐ None

Remark: replacement Bayou Sorrel lock

Physical Description

Date of Construction: ☒ Circa ☐ Exact 20th Cent.

Moved: ☐ Yes ☐ No Probable When? _____

Function and Use

"P" for Present, "H" for Historic

P **domestic**	___ **social**	___ library	___ animal facility	___ fortification
P single dwelling	___ meeting hall	___ research facility	___ fishing facility	___ military facility
___ secondary structure	___ clubhouse	___ **religion**	___ horticultural facility	___ coast guard facility
___ servant quarter	___ civic	___ religious facility	___ irrigation facility	___ battle site
___ multiple dwelling	___ **government**	___ church school	___ **industry**	___ **landscape**
___ hotel	___ capitol	___ **recreation/culture**	___ manufacturing	___ park
___ institutional housing	___ city hall	___ theater	___ extractive facility	___ plaza
___ camp	___ correctional facility	___ auditorium	___ waterworks	___ garden
___ **commerce/trade**	___ fire station	___ museum	___ communication facility	___ **transportation**
___ business	___ government office	___ sports facility	___ processing site	___ rail-related
___ professional	___ custom house	___ outdoor recreation	___ energy production	___ air-related
___ organizational	___ post office	___ fair	___ **health care**	___ water-related
___ financial institution	___ public works	___ monument/marker	___ hospital	___ road-related
___ specialty store	___ courthouse	___ work of art	___ clinic	___ pedestrian-related
___ department store	___ **education**	___ **agriculture/subsistence**	___ sanitarium	___ **unknown**
___ restaurant	___ school	___ processing	___ medical office	___ **vacant**
___ warehouse	___ college	___ storage	___ resort	___ **other**_____
			___ **defense**	_____
			___ arms storage	_____

Form and Dimensions

___ single pen	___ central-hall	___ hall-parlor I-house	___ skyscraper	___ H ___ L
___ shotgun	___ gable-ell	___ Creole house	___ commercial row bldg.	___ U ___ cruciform
___ double-shotgun	___ bungalow	___ central hall, 2 pile house	___ freestanding commercial	___ T ___ T
___ camelback	___ pyramidal cottage	___ Queen Anne house	___ single-crib barn	
___ double pen	___ Queen Anne cottage	___ four square	___ transverse-crib barn	☒ symetrical ___ vertical
___ hall-parlor	___ central-hall, 2 pile cottage	___ minimal tradition cottage	☒ other	___ asymetrical ___ horizontal
___ saddlebag	___ bluffland cottage	___ split level		
___ creole cottage	___ central-hall I-house	___ ranch		
___ dog trot	___ double-pen I-house	___ row house		
		___ warehouse		
		___ depot		

Height: ___1 ___1.5 ___2 ___2.5 ___3 ___4 ___5-10 ___10-20 ___20+

Width: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Depth: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Style

☐ High Style ☐ Elements of... ☒ No Style

___ Creole/ French Colonial	___ Exotic Revival	___ Eastlake/Stick	___ Colonial Revival	___ Prairie	___ International
___ Federal	___ Victorian Gothic	___ Shingle Style	___ Classical Revival	___ Commercial Style	___ Other_____
___ Greek Revival	___ Italianate	___ Romanesque	___ Tudor Revival	___ Chicago	_____
___ Gothic Revival	___ Second Empire	___ Renaissance	___ Late Gothic Revival	___ Skyscraper	_____
___ Italian Villa	___ Queen Anne	___ Beaux Arts	___ Mission	___ Craftsman	_____
			___ Italian Renaissance	___ Moderne	_____
			___ French Renaissance	___ Art Deco	_____

Foundation

___ post in ground	___ sill on ground	☒ concrete block pier	___ continuous stone	___ unknown	___ w/stone infill
	___ wooden pier	___ concrete pylon pier	___ continuous concrete block		___ w/ brick infill
	___ brick pier	___ continuous brick	___ concrete slab		___ w/ concrete block infill

Construction

___ post in ground	___ log (note notch)	☒ balloon frame	___ load bearing concrete block	___ w/ bousillage infill
___ post on sill	___ hewn log	___ unknown wood frame	___ reinforced concrete	___ w/ brick infill
	___ french timber frame	___ load bearing brick	___ steel frame/curtain wall	___ w/ stone infill
	___ eastern brace frame	___ load bearing stone	___ unknown construction	

Exterior Materials

___ log (note dressing)	☒ vertical board	___ stone (note dressing)	___ terra cotta	☒ asphalt	
___ clapboard/weatherboard	___ board and batten	___ concrete block	___ glazed brick/tile/block	___ reconstituted wood siding	
___ drop/novelty siding	___ wood shingle	___ decorative concrete block	___ sheet metal	___ permastone	
___ flush horizontal board	___ exposed bousillage	___ poured concrete wall	___ enamelled steel	___ other (see narrative)	
	___ stucco	___ pigmented glass	___ asbestos	___ unknown	
	___ brick (note bond)	___ glass block	___ aluminum/vinyl siding		

Roof

	___ parapet gable	___ gambrel	___ pyramidal	___ conical	___ unknown	☒ low pitch
	___ stepped gable	___ hip	___ mansard	___ flat		___ moderate pitch
☒ front gable	___ clipped gable	___ double pitch hip	___ complex	___ shed		___ steep pitch
___ side gable	___ cross gable	___ gable on hip	___ round	___ other (see narrative)		___ w/ parapet wall

Roof Materials

___ asphalt shingle	___ built up	
___ asbestos	___ other	
☒ metal	___ unknown	
___ ceramic/terra cotta tile		
___ wood shingle		
___ slate		

Chimney(s)

___ ridge center	___ lateral exterior	
___ ridge off-center	___ removed	
___ slope center	___ other	
___ slope off center	___ unknown	
___ gable end exterior		
___ gable end interior/flush		

Windows

__ batten
__ fixed single
__ fixed divided
X single-hung
X double-hung
__ triple-hung
__ bay
__ oriel
__ Palladian
__ casement
__ sliding
__ replacement
__ unknown
__ other

__ 1 / 1
__ 2 / 2
__ 4 / 4
X 6 / 6
__ 9 / 9
__ 12 / 12
__ 2 / 1
__ 3 / 1
__ 4 / 1
__ 6 / 1
__ 9 / 1
__ 12 / 1
__ 9 / 6
__ multi-
__ stained
__ diamond
__ unknown
__ other

Doors/Surrounds

____ number
__ batten
__ french
__ panel
__ flush
__ glazed
__ partially glazed
__ fanlight
__ sidelights
__ transom
__ screened
__ replacement
X unknown
__ Federal
__ Greek Revival
__ Queen Anne
__ other

Porch

__ stoop
__ verandah
__ gallery
__ portico
__ balcony
X full width
__ loggia
__ porte-cochere
__ partial width
X attached
__ integrated
__ wrap
__ peripteral
X screened
X enclosed
__ unknown
__ other

Secondary

__ stoop
__ verandah
__ gallery
__ portico
__ balcony
__ loggia
__ porte-cochere
X full width
__ partial width
X attached
__ integrated
__ wrap
__ peripteral
__ screened
X enclosed
__ unknown
__ other

Additions and Alterations

date	description	impact
_____	structural addition @ rear of dwelling, weatherboard siding + flat roof	I (M) S
_____	car port, west side of structure	(I) M S
_____		I M S
_____		I M S
_____		I M S

Context

__ Plantation Agriculture (1750-1945)
__ Creole Architecture (1750 - 1900)
__ Upland South Culture (1820 -1945)
__ New Orleans as Seaport (1718 -1945)
__ Transportation Systems (1812 -1845)
__ Historic Lumber Industry (1880-1920)
__ Rice Boom (1880-1945)
__ Oil and Gas Industry (1903-1945)
X Anglo-American Architecture (1800-1945)

Significance

__ agriculture
X architecture
__ archeology
__ art
__ commerce
__ communications
__ community planning and development
__ conservation
__ economics
__ education
__ engineering
__ entertainment/recreation
__ ethnic heritage
__ exploration/settlement
__ health/medicine
__ industry
__ invention
__ landscape architecture
__ law
__ literature
__ maritime history
__ military
__ performing arts
__ philosophy
__ politics/government
__ religion
__ science
__ social history
__ transportation

Narrative

Standing Structure (BS1-5) was identified during Phase I cultural resources survey of the proposed US Corps of Engineers replacement of the Bayou Sorrel Lock. It represents a vernacular structure typical to rural Louisiana. The building is rectangular in form with several structural additions including a partially enclosed porch, a car port and a shed, all with flat roofs. The exterior walls are asphalt shingles + wood siding roofing material is asphalt shingles. Structure has probably been moved to present location, however a date of move was not given.

The structure possesses no known historical significance and is not architecturally unique. Standing Structure (BS1-5) does not possess the qualities of significance as defined by NRHP. No additional architectural investigation of this building is recommended.

History

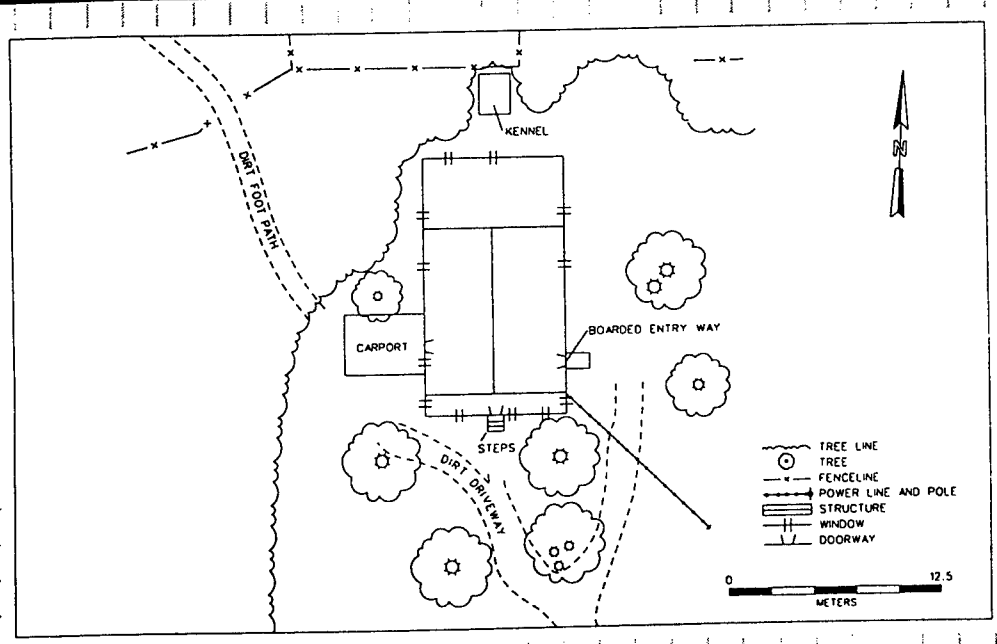
Sources

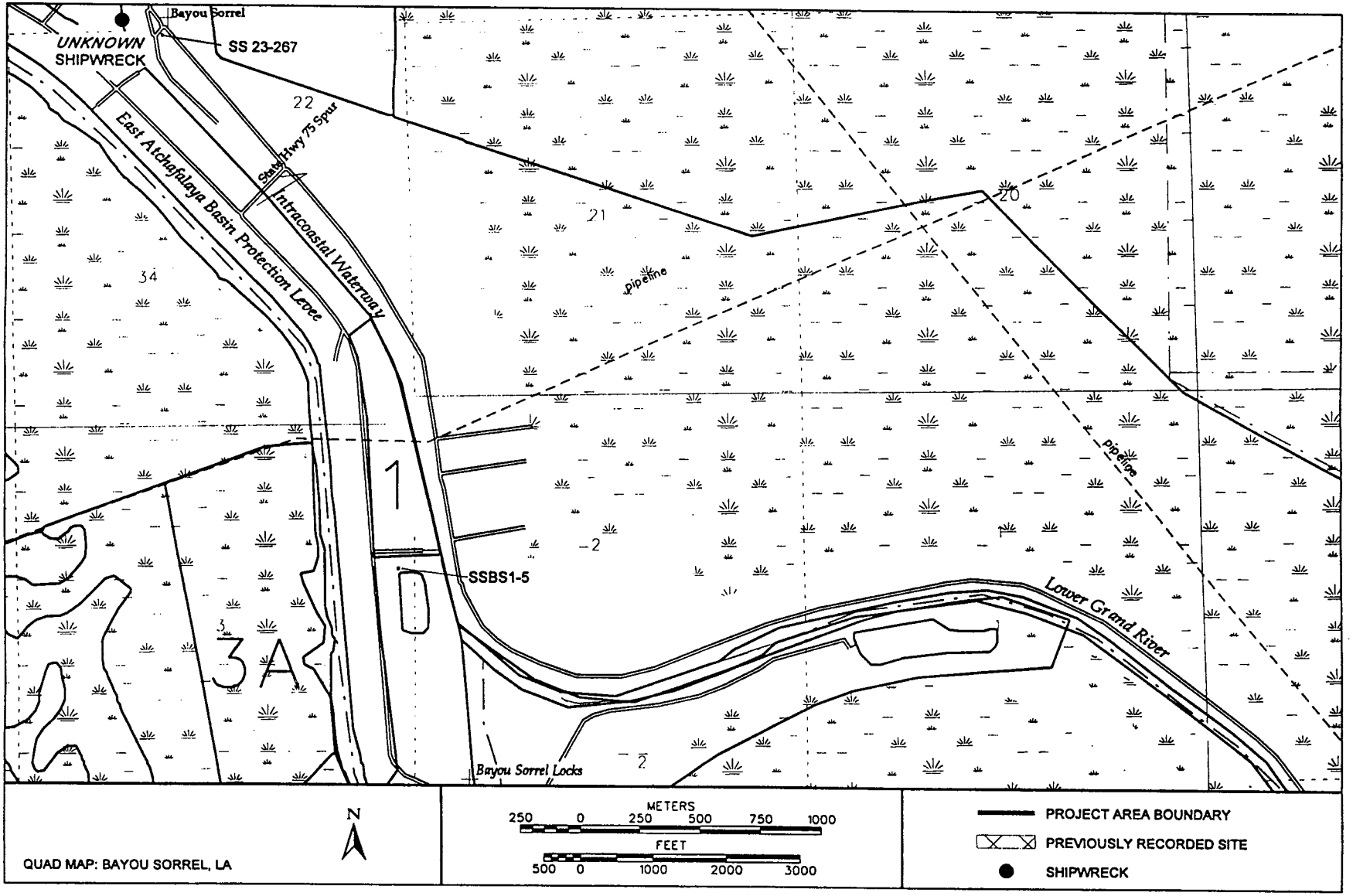
Outbuildings

1 - single crib barn
2 - double crib barn
3 - transverse-crib barn
4 - storage/misc. shed
5 - smoke house
6 - spring/well house
7 - corn crib
8 - coop
9 - quarters
10 - garcconier
11 - pigeonnier
12 - kitchen
13 - office
14 - machine shed
15 - garage
16 - privey
17 - stable
18 - other

#1	#2	#3	#4	#5	#6
type: 18	type:	type:	type:	type:	type:
date: e / ⓒ mid-20th	date: e / c	date: e / c	date: e / c	date: e / c	date: e / c
comment: dog Kennel	comment:	comment:	comment:	comment:	comment:

Site Plan




Bayou Sorrel
UNKNOWN SHIPWRECK
SS 23-267
22
State Hwy 75 Spur
East Atchafalaya Basin Protection Levee
Intracoastal Waterway
21
20
34
pipeline
Pipeline
1
2
SSBS1-5
3
3A
Lower Grand River
Bayou Sorrel Locks
N
QUAD MAP: BAYOU SORREL, LA
METERS
250 0 250 500 750 1000
FEET
500 0 1000 2000 3000
PROJECT AREA BOUNDARY
PREVIOUSLY RECORDED SITE
SHIPWRECK

Louisiana Historic Resource Inventory

Louisiana Division of Historic Preservation
Office of Cultural Development
Department of Culture, Recreation and Tourism

Resource ID Number: [ ][ ]-[ ][ ][ ][ ]-[ ]
parish # | resource #

☐ Addendum Attached

Location and Geographic Information

Name of Property: Boyd

Address: 34105 Bayou Sorrel Rd **Parish:** Iberville

Locality: ☐ City ☐ Community ☐ Vicinity ☒ Rural

City/Community/Vicinity of...: Bayou Sorrel, LA

Topographic Quad: Bayou Sorrel, LA 1992 **Quad Size:** ☒ 7.5 ☐ 15

UTM: [15] zone – [661210] easting – [3335460] northing R11E range T11S township 2 section

Owner Name: Unknown

Owner Address: _____ **Tax Parcel:** _____

Property Information

Type: ☐ Site ☐ Structure ☒ Building ☐ Object

Level of Recognition: ☐ NHL ☐ NR individual ☐ NR district/element ☐ DOE ☐ Local ☒ None

Previously Surveyed: ☐ Yes ☒ No **When, Located Where?:** _____

Government Preservation Activity: ☒ Section 106 ☐ Grant ☐ Tax Credit ☐ Local Ord. ☐ Other

HABS/HAER: ☐ Yes ☒ No **NR eligibility:** ☐ Potential individual ☐ Potential district ☒ Ineligible

Condition: ☐ Excellent ☐ Good ☒ Fair ☐ Poor ☐ Ruin

Remark: _____

Integrity: ☐ Unaltered ☐ Altered (Historic) ☒ Altered (Non-Historic)

Remark: _____

Threats: ☐ Abandonment ☐ Neglect ☐ Alteration ☐ Development ☒ Government Action ☐ None

Remark: Replacement Bayou Sorrel Lock

Physical Description

Date of Construction: ☒ Circa 20th cent. ☐ Exact

Moved: ☐ Yes Probable ☐ No When? _____

Function and Use

"P" for Present, "H" for Historic

P **domestic**
P single dwelling
___ secondary structure
___ servant quarter
___ multiple dwelling
___ hotel
___ institutional housing
___ camp
___ **commerce/trade**
___ business
___ professional
___ organizational
___ financial institution
___ specialty store
___ department store
___ restaurant
___ warehouse

___ **social**
___ meeting hall
___ clubhouse
___ civic
___ **government**
___ capitol
___ city hall
___ correctional facility
___ fire station
___ government office
___ custom house
___ post office
___ public works
___ courthouse
___ **education**
___ school
___ college

___ library
___ research facility
___ **religion**
___ religious facility
___ church school
___ **recreation/culture**
___ theater
___ auditorium
___ museum
___ sports facility
___ outdoor recreation
___ fair
___ monument/marker
___ work of art
___ **agriculture/subsistence**
___ processing
___ storage

___ animal facility
___ fishing facility
___ horticultural facility
___ irrigation facility
___ **industry**
___ manufacturing
___ extractive facility
___ waterworks
___ communication facility
___ processing site
___ energy production
___ **health care**
___ hospital
___ clinic
___ sanitarium
___ medical office
___ resort
___ **defense**
___ arms storage

___ fortification
___ military facility
___ coast guard facility
___ battle site
___ **landscape**
___ park
___ plaza
___ garden
___ **transportation**
___ rail-related
___ air-related
___ water-related
___ road-related
___ pedestrian-related
___ **unknown**
___ **vacant**
___ **other**_____
_____
_____

Form and Dimensions

___ single pen
☒ shotgun
___ double-shotgun
___ camelback
___ double pen
___ hall-parlor
___ saddlebag
___ creole cottage
___ dog trot

___ central-hall
___ gable-ell
___ bungalow
___ pyramidal cottage
___ Queen Anne cottage
___ central-hall, 2 pile cottage
___ bluffland cottage
___ central-hall I-house
___ double-pen I-house

___ hall-parlor I-house
___ Creole house
___ central hall, 2 pile house
___ Queen Anne house
___ four square
___ minimal tradition cottage
___ split level
___ ranch
___ row house
___ warehouse
___ depot

___ skyscraper
___ commercial row bldg.
___ freestanding commercial
___ single-crib barn
___ transverse-crib barn
___ other

___ H ___ L
___ U ___ cruciform
___ T ___ T

☒ symetrical ___ vertical
___ asymetrical ___ horizontal

Height: ☒1 ___1.5 ___2 ___2.5 ___3 ___4 ___5-10 ___10-20 ___20+
Width: ___1 ___1.5 ___2 ___2.5 ___3 ___3+
Depth: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Style

☐ High Style ☐ Elements of... ☒ No Style

___ Creole/ French Colonial
___ Federal
___ Greek Revival
___ Gothic Revival
___ Italian Villa

___ Exotic Revival
___ Victorian Gothic
___ Italianate
___ Second Empire
___ Queen Anne

___ Eastlake/Stick
___ Shingle Style
___ Romanesque
___ Renaissance
___ Beaux Arts

___ Colonial Revival
___ Classical Revival
___ Tudor Revival
___ Late Gothic Revival
___ Mission
___ Italian Renaissance
___ French Renaissance

___ Prairie
___ Commercial Style
___ Chicago
___ Skyscraper
___ Craftsman
___ Moderne
___ Art Deco

___ International
___ Other_____
_____
_____
_____
_____
_____

Foundation

___ post in ground
___ sill on ground
___ wooden pier
___ brick pier
☒ concrete block pier
___ concrete pylon pier
___ continuous brick
___ continuous stone
___ continuous concrete block
___ concrete slab
___ unknown

___ w/stone infill
___ w/ brick infill
___ w/ concrete block infill

Construction

___ post in ground
___ post on sill
___ log (note notch)
___ hewn log
___ french timber frame
___ eastern brace frame
☒ balloon frame
___ unknown wood frame
___ load bearing brick
___ load bearing stone
___ load bearing concrete block
___ reinforced concrete
___ steel frame/curtain wall
___ unknown construction

___ w/ bousillage infill
___ w/ brick infill
___ w/ stone infill

Exterior Materials

___ log (note dressing)
___ clapboard/weatherboard
___ drop/novelty siding
___ flush horizontal board
☒ vertical board
___ board and batten
___ wood shingle
___ exposed bousillage
___ stucco
___ brick (note bond)
___ stone (note dressing)
___ concrete block
___ decorative concrete block
___ poured concrete wall
___ pigmented glass
___ glass block
___ terra cotta
___ glazed brick/tile/block
___ sheet metal
___ enamelled steel
___ asbestos
___ aluminum/vinyl siding
___ asphalt
___ reconstituted wood siding
___ permastone
___ other (see narrative)
___ unknown

Roof

___ front gable
___ side gable
___ parapet gable
___ stepped gable
___ clipped gable
___ cross gable
___ gambrel
___ hip
___ double pitch hip
___ gable on hip
___ pyramidal
___ mansard
___ complex
___ round
___ conical
___ flat
___ shed
___ other (see narrative)
___ unknown

___ low pitch
☒ moderate pitch
___ steep pitch
___ w/ parapet wall

Roof Materials

___ wood shingle
___ slate
___ asphalt shingle
___ asbestos
☒ metal
___ ceramic/terra cotta tile
___ built up
___ other
___ unknown

Chimney(s)

___ gable end exterior
___ gable end interior/flush
___ ridge center
___ ridge off-center
___ slope center
___ slope off center
___ lateral exterior
___ removed
___ other
___ unknown

Windows

__ batten
__ fixed single

__ fixed divided
__ single-hung
X double-hung
__ triple-hung

__ bay
__ oriel
__ Palladian
__ casement

__ sliding
__ replacement
__ unknown
__ other

__ 1 / 1
__ 2 / 2
__ 4 / 4
__ 6 / 6

__ 9 / 9
__ 12 / 12
__ 2 / 1
__ 3 / 1

__ 4 / 1
X 6 / 1
__ 9 / 1
__ 12 / 1

__ 9 / 6
__ multi-
__
__

__ stained
__ diamond
__ unknown
__ other

Doors/Surrounds

__2__ number

__ batten
__ french
__ panel

__ flush
__ glazed
__ partially glazed

__ fanlight
__ sidelights
__ transom

__ screened
__ replacement
X unknown

__ Federal
__ Greek Revival
__ Queen Anne

__ other

Porch

__ stoop
__ verandah

__ gallery
__ portico
__ balcony
__ loggia

__ porte-cochere
X full width
__ partial width
X attached

__ integrated
__ wrap
__ peripteral
X screened

__ enclosed
__ unknown
__ other

Secondary

__ stoop
__ verandah

__ gallery
__ portico
__ balcony
__ loggia

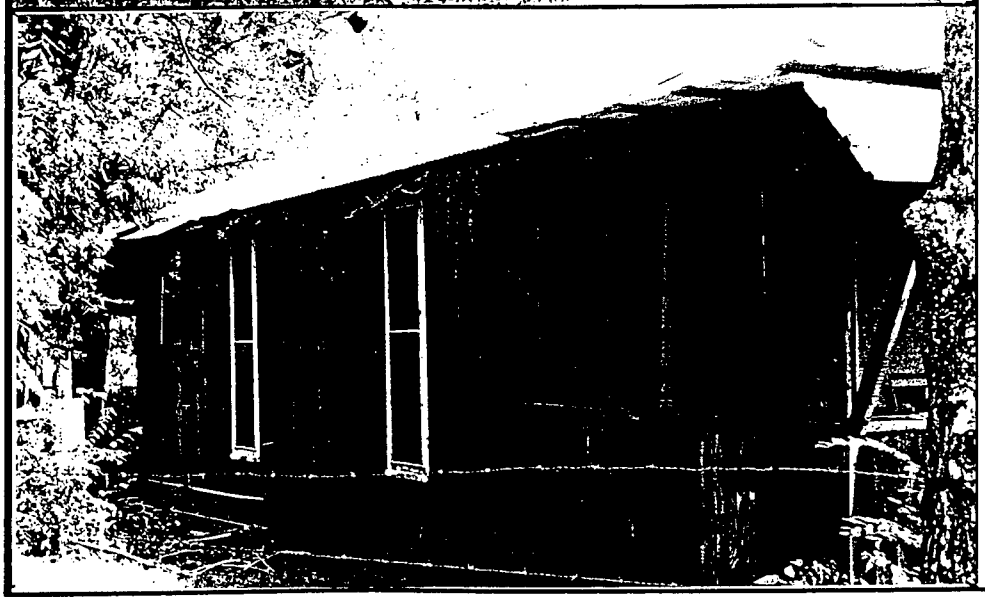
__ porte-cochere
X full width
__ partial width
X attached

__ integrated
__ wrap
__ peripteral
X screened

__ enclosed
__ unknown
__ other

Additions and Alterations

date	*description*	*impact*
_____	_____	I M S
_____	_____	I M S
_____	_____	I M S
_____	_____	I M S
_____	_____	I M S



Context

__ Plantation Agriculture (1750-1945)
__ Creole Architecture (1750 - 1900)
__ Upland South Culture (1820 -1945)
__ New Orleans as Seaport (1718 -1945)
__ Transportation Systems (1812 -1845)
__ Historic Lumber Industry (1880-1920)
__ Rice Boom (1880-1945)
__ Oil and Gas Industry (1903-1945)
X Anglo-American Architecture (1800-1945)

Significance

__ agriculture
X architecture
__ archeology
__ art
__ commerce
__ communications
__ community planning and development
__ conservation
__ economics
__ education
__ engineering
__ entertainment/recreation
__ ethnic heritage
__ exploration/settlement
__ health/medicine
__ industry
__ invention
__ landscape architecture
__ law
__ literature
__ maritime history
__ military
__ performing arts
__ philosophy
__ politics/government
__ religion
__ science
__ social history
__ transportation

Narrative

Standing Structure (BS1-3) was identified during Phase I cultural resources survey of the proposed U.S. Corps of Engineers replacement of the Bayou Sorrel Lock. It represents a shotgun home typical to Louisiana architecture. The building is rectangular in plan, concrete piers support it, with two porch additions - each with a flat roof. The exterior walls are vertical wood siding and the roofing material is aluminum. Structure possibly moved to present location.

The structure possesses no known historical significance, and is not architecturally unique. Standing Structure (BS1-3) does not possess the qualities of significance as defined by the NRHP. No additional architectural investigation of this building is recommended.

History

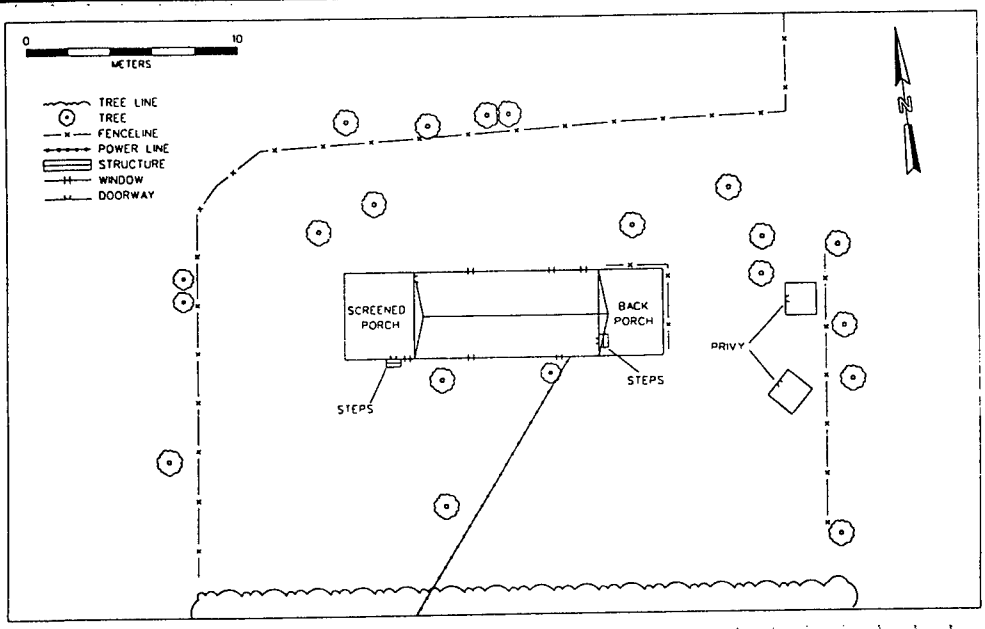
Sources

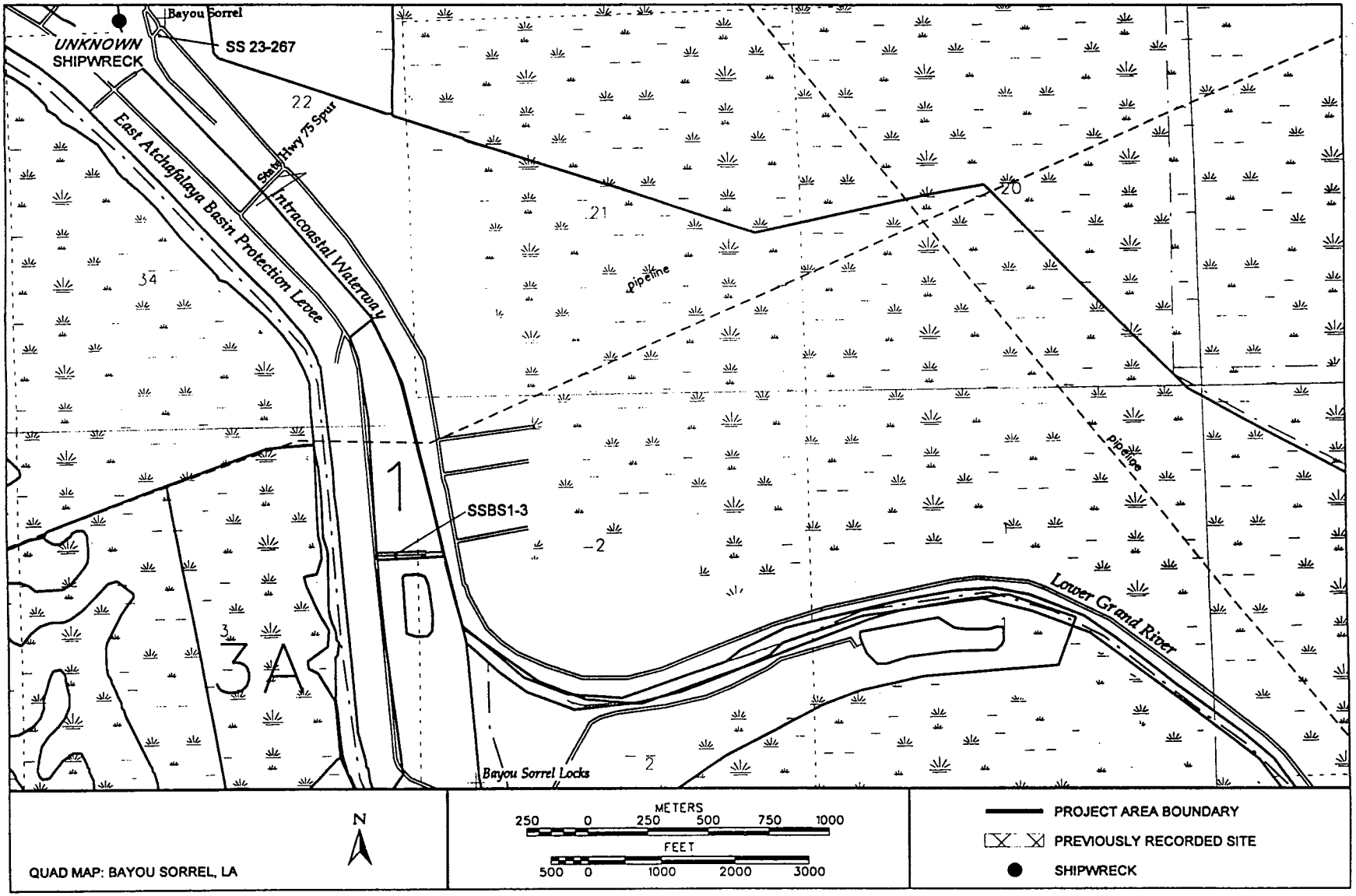
Outbuildings

1 - single crib barn
2 - double crib barn
3 - transverse-crib barn
4 - storage/misc. shed
5 - smoke house
6 - spring/well house
7 - corn crib
8 - coop
9 - quarters
10 - garconnier
11 - pigeonnier
12 - kitchen
13 - office
14 - machine shed
15 - garage
16 - privey
17 - stable
18 - other

#1	#2	#3	#4	#5	#6
type: 16	type: 16	type:	type:	type:	type:
date: e / ⓒ MID-20th	date: e / ⓒ MID-20th	date: e / c	date: e / c	date: e / c	date: e / c
comment: Aluminum Construction	comment: Aluminum construction	comment:	comment:	comment:	comment:

Site Plan




Bayou Sorrel
UNKNOWN SHIPWRECK
SS 23-267
22
Salty Hwy 75 Spur
East Atchafalaya Basin Protection Levee
Intracoastal Waterway
21
20
34
Pipeline
Pipeline
1
SSBS1-3
2
3
3A
Lower Grand River
Bayou Sorrel Locks
N
METERS
250 0 250 500 750 1000
FEET
500 0 1000 2000 3000
QUAD MAP: BAYOU SORREL, LA
PROJECT AREA BOUNDARY
PREVIOUSLY RECORDED SITE
SHIPWRECK

Louisiana Historic Resource Inventory

Louisiana Division of Historic Preservation
Office of Cultural Development
Department of Culture, Recreation and Tourism

Resource ID Number: [ ][ ]-[ ][ ][ ][ ][ ]-[ ]
parish / resource #

☐ Addendum Attached

Location and Geographic Information

Name of Property: Unknown

Address: 34075 Bayou Sorrel Rd. **Parish:** Iberville

Locality: ☐ City ☐ Community ☐ Vicinity ☒ Rural

City/Community/Vicinity of...: Bayou Sorrel, LA

Topographic Quad: Bayou Sorrel, LA 1992 **Quad Size:** ☒ 7.5 ☐ 15

UTM: [1][5] zone – [6][6][1][1][8][0] easting – [3][3][3][5][5][2][0] northing

R 11 E range | T 11 S township | 2 section

Owner Name: Unknown

Owner Address: _____ **Tax Parcel:** _____

Property Information

Type: ☐ Site ☐ Structure ☒ Building ☐ Object

Level of Recognition: ☐ NHL ☐ NR individual ☐ NR district/element ☐ DOE ☐ Local ☐ None

Previously Surveyed: ☐ Yes ☒ No **When, Located Where?:** _____

Government Preservation Activity: ☒ Section 106 ☐ Grant ☐ Tax Credit ☐ Local Ord. ☐ Other

HABS/HAER: ☐ Yes ☒ No **NR eligibility:** ☐ Potential individual ☐ Potential district ☒ Ineligible

Condition: ☐ Excellent ☐ Good ☒ Fair ☐ Poor ☐ Ruin

Remark: _____

Integrity: ☐ Unaltered ☐ Altered (Historic) ☒ Altered (Non-Historic)

Remark: _____

Threats: ☐ Abandonment ☐ Neglect ☐ Alteration ☐ Development ☒ Government Action ☐ None

Remark: Replacement of Bayou Sorrel Lock

Physical Description

Date of Construction: ☒ Circa 20th Cent. ☐ Exact

Moved: ☒ Yes ☐ No When? PROBABLE

Function and Use

"P" for Present, "H" for Historic

P **domestic**
P single dwelling
___ secondary structure
___ servant quarter
___ multiple dwelling
___ hotel
___ institutional housing
___ camp
___ **commerce/trade**
___ business
___ professional
___ organizational
___ financial institution
___ specialty store
___ department store
___ restaurant
___ warehouse

___ **social**
___ meeting hall
___ clubhouse
___ civic
___ **government**
___ capitol
___ city hall
___ correctional facility
___ fire station
___ government office
___ custom house
___ post office
___ public works
___ courthouse
___ **education**
___ school
___ college

___ library
___ research facility
___ **religion**
___ religious facility
___ church school
___ **recreation/culture**
___ theater
___ auditorium
___ museum
___ sports facility
___ outdoor recreation
___ fair
___ monument/marker
___ work of art
___ **agriculture/subsistence**
___ processing
___ storage

___ animal facility
___ fishing facility
___ horticultural facility
___ irrigation facility
___ **industry**
___ manufacturing
___ extractive facility
___ waterworks
___ communication facility
___ processing site
___ energy production
___ **health care**
___ hospital
___ clinic
___ sanitarium
___ medical office
___ resort
___ **defense**
___ arms storage

___ fortification
___ military facility
___ coast guard facility
___ battle site
___ **landscape**
___ park
___ plaza
___ garden
___ **transportation**
___ rail-related
___ air-related
___ water-related
___ road-related
___ pedestrian-related
___ **unknown**
___ **vacant**
___ **other**_____

Form and Dimensions

___ single pen
___ shotgun
___ double-shotgun
___ camelback
___ double pen
___ hall-parlor
___ saddlebag
___ creole cottage
___ dog trot

___ central-hall
___ gable-ell
___ bungalow
___ pyramidal cottage
___ Queen Anne cottage
___ central-hall, 2 pile cottage
___ bluffland cottage
___ central-hall I-house
___ double-pen I-house

___ hall-parlor I-house
___ Creole house
___ central hall, 2 pile house
___ Queen Anne house
___ four square
___ minimal tradition cottage
___ split level
___ ranch
___ row house
___ warehouse
___ depot

___ skyscraper
___ commercial row bldg.
___ freestanding commercial
___ single-crib barn
___ transverse-crib barn
X other

___ H X L
___ U ___ cruciform
___ T ___ T

___ symetrical ___ vertical
X asymetrical X horizontal

Height: X 1 ___1.5 ___2 ___2.5 ___3 ___4 ___5-10 ___10-20 ___20+
Width: ___1 ___1.5 ___2 ___2.5 ___3 ___3+
Depth: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Style

☐ High Style ☐ Elements of... ☒ No Style

___ Creole/ French Colonial
___ Federal
___ Greek Revival
___ Gothic Revival
___ Italian Villa

___ Exotic Revival
___ Victorian Gothic
___ Italianate
___ Second Empire
___ Queen Anne

___ Eastlake/Stick
___ Shingle Style
___ Romanesque
___ Renaissance
___ Beaux Arts

___ Colonial Revival
___ Classical Revival
___ Tudor Revival
___ Late Gothic Revival
___ Mission
___ Italian Renaissance
___ French Renaissance

___ Prairie
___ Commercial Style
___ Chicago
___ Skyscraper
___ Craftsman
___ Moderne
___ Art Deco

___ International
___ Other_____

Foundation

___ post in ground
___ sill on ground
___ wooden pier
___ brick pier
X concrete block pier
___ concrete pylon pier
___ continuous brick
___ continuous stone
___ continuous concrete block
___ concrete slab
___ unknown

___ w/stone infill
___ w/ brick infill
___ w/ concrete block infill

Construction

___ post in ground
___ post on sill
___ log (note notch)
___ hewn log
___ french timber frame
___ eastern brace frame
X balloon frame
___ unknown wood frame
___ load bearing brick
___ load bearing stone
___ load bearing concrete block
___ reinforced concrete
___ steel frame/curtain wall
___ unknown construction

___ w/ bousillage infill
___ w/ brick infill
___ w/ stone infill

Exterior Materials

___ log (note dressing)
___ clapboard/weatherboard
___ drop/novelty siding
___ flush horizontal board
X vertical board
___ board and batten
___ wood shingle
___ exposed bousillage
___ stucco
___ brick (note bond)
___ stone (note dressing)
___ concrete block
___ decorative concrete block
___ poured concrete wall
___ pigmented glass
___ glass block
___ terra cotta
___ glazed brick/tile/block
___ sheet metal
___ enamelled steel
___ asbestos
___ aluminum/vinyl siding
___ asphalt
___ reconstituted wood siding
___ permastone
___ other (see narrative)
___ unknown

Roof

X front gable
___ side gable
___ parapet gable
___ stepped gable
___ clipped gable
___ cross gable
___ gambrel
___ hip
___ double pitch hip
___ gable on hip
___ pyramidal
___ mansard
___ complex
___ round
___ conical
___ flat
___ shed
___ other (see narrative)
___ unknown

___ low pitch
X moderate pitch
___ steep pitch
___ w/ parapet wall

Roof Materials

___ wood shingle
___ slate
___ asphalt shingle
___ asbestos
X metal
___ ceramic/terra cotta tile
___ built up
___ other
___ unknown

Chimney(s)

___ gable end exterior
___ gable end interior/flush
___ ridge center
___ ridge off-center
___ slope center
___ slope off center
___ lateral exterior
___ removed
___ other
___ unknown

Windows

__ batten
__ fixed single
__ fixed divided
__ single-hung
X double-hung
__ triple-hung
__ bay
__ oriel
__ Palladian
__ casement
__ sliding
__ replacement
__ unknown
__ other

__ 1/1
__ 2/2
__ 4/4
X 6/6
__ 9/9
__ 12/12
__ 2/1
__ 3/1
__ 4/1
__ 6/1
__ 9/1
__ 12/1
__ 9/6
__ multi-
__ stained
__ diamond
__ unknown
__ other

Doors/Surrounds

3 number
__ batten
__ french
__ panel
__ flush
__ glazed
__ partially glazed
__ fanlight
__ sidelights
__ transom
__ screened
X unknown
__ Federal
__ Greek Revival
__ Queen Anne
__ other

Porch

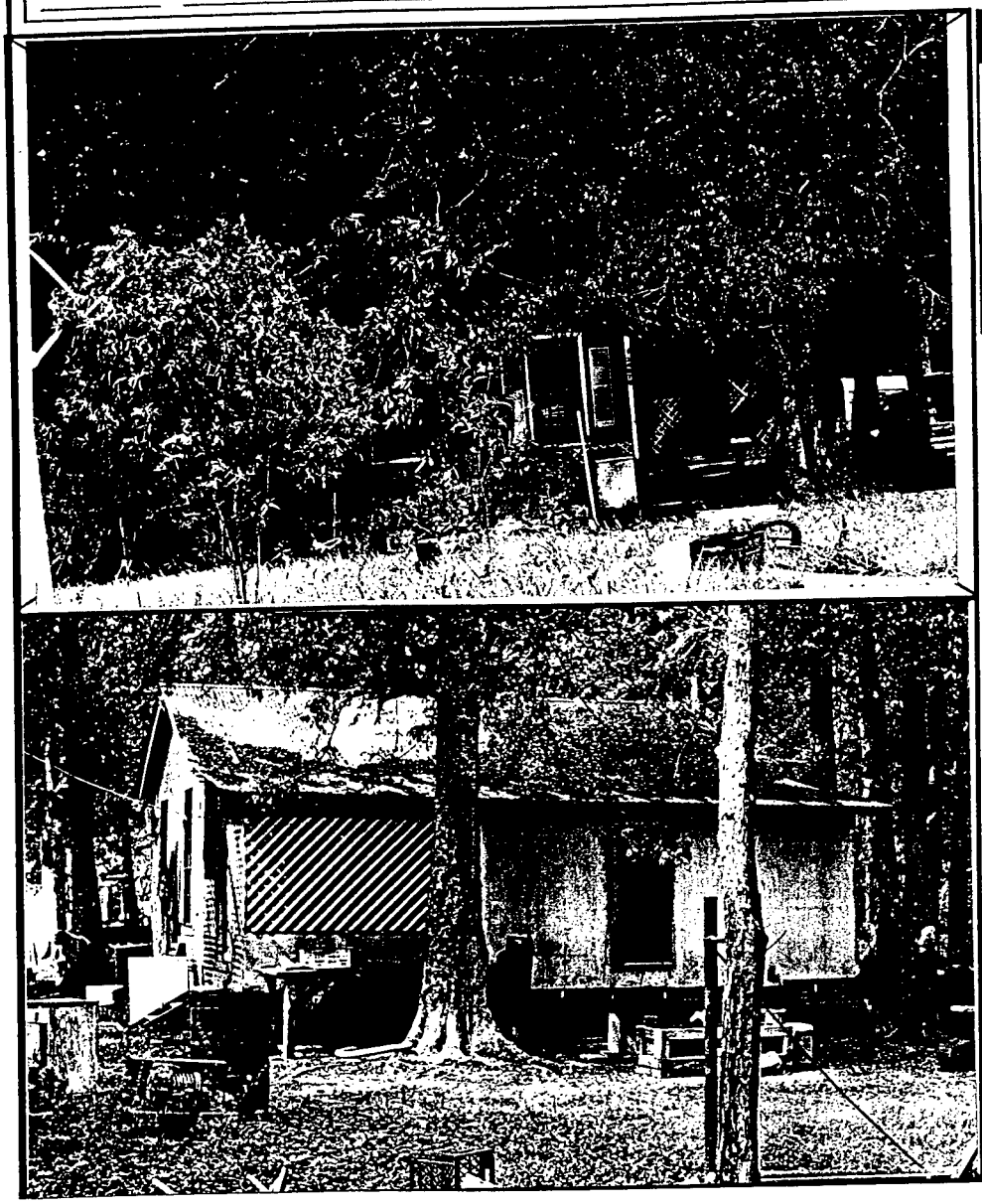
__ stoop
X verandah
__ gallery
__ portico
__ balcony
__ loggia
__ porte-cochere
__ full width
__ partial width
X attached
__ integrated
__ wrap
__ peripteral
X screened
X enclosed
__ unknown
__ other

Secondary

__ stoop
__ verandah
__ gallery
__ portico
__ balcony
__ loggia
__ porte-cochere
__ full width
__ partial width
__ attached
__ integrated
__ wrap
__ peripteral
__ screened
X enclosed
__ unknown
__ other

Additions and Alterations

date	description	impact
_____	screened porch & enclosed area, entire length of structure	I M S
_____		I M S
_____		I M S
_____		I M S
_____		I M S
_____		I M S



Context

__ Plantation Agriculture (1750-1945)
__ Creole Architecture (1750 - 1900)
__ Upland South Culture (1820 -1945)
__ New Orleans as Seaport (1718 -1945)
__ Transportation Systems (1812 -1845)
__ Historic Lumber Industry (1880-1920)
__ Rice Boom (1880-1945)
__ Oil and Gas Industry (1903-1945)
X Anglo-American Architecture (1800-1945)

Significance

__ agriculture
X architecture
__ archeology
__ art
__ commerce
__ communications
__ community planning and development
__ conservation
__ economics
__ education
__ engineering
__ entertainment/recreation
__ ethnic heritage
__ exploration/settlement
__ health/medicine
__ industry
__ invention
__ landscape architecture
__ law
__ literature
__ maritime history
__ military
__ performing arts
__ philosophy
__ politics/government
__ religion
__ science
__ social history
__ transportation

Narrative

Standing Structure (BS1-2) was identified during Phase I cultural resources survey of the proposed U.S. Corps of Engineers replacement of the Bayou Sorrel Locks. It represents a coursed frame-gabled vernacular house with multiple modern additions. Structure appears to have one addition attached to south side of main building. It provide additional living space + a porch. It is asymetrical in plan, with concrete piers supporting it. Vertical wood siding and a tin roof. Strong possibility the structure was moved to present location. The structure possesses no known historical significance and is not architecturally unique. Standing Structure BS1-2 does not possess the qualities of significance as defined by NRHP. No additional architectural recordation of this building is recommended.

History

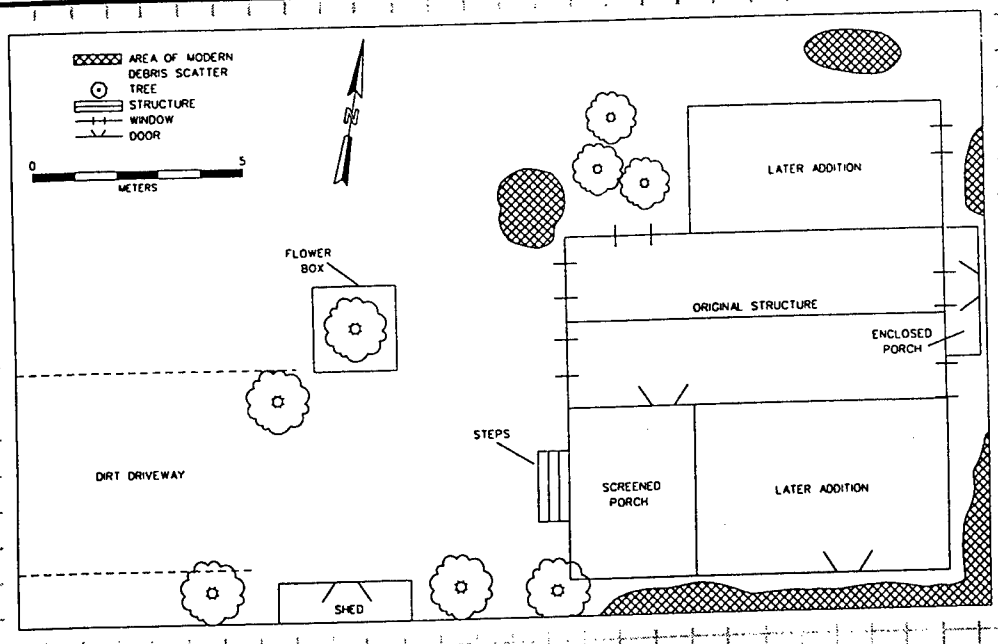
Sources

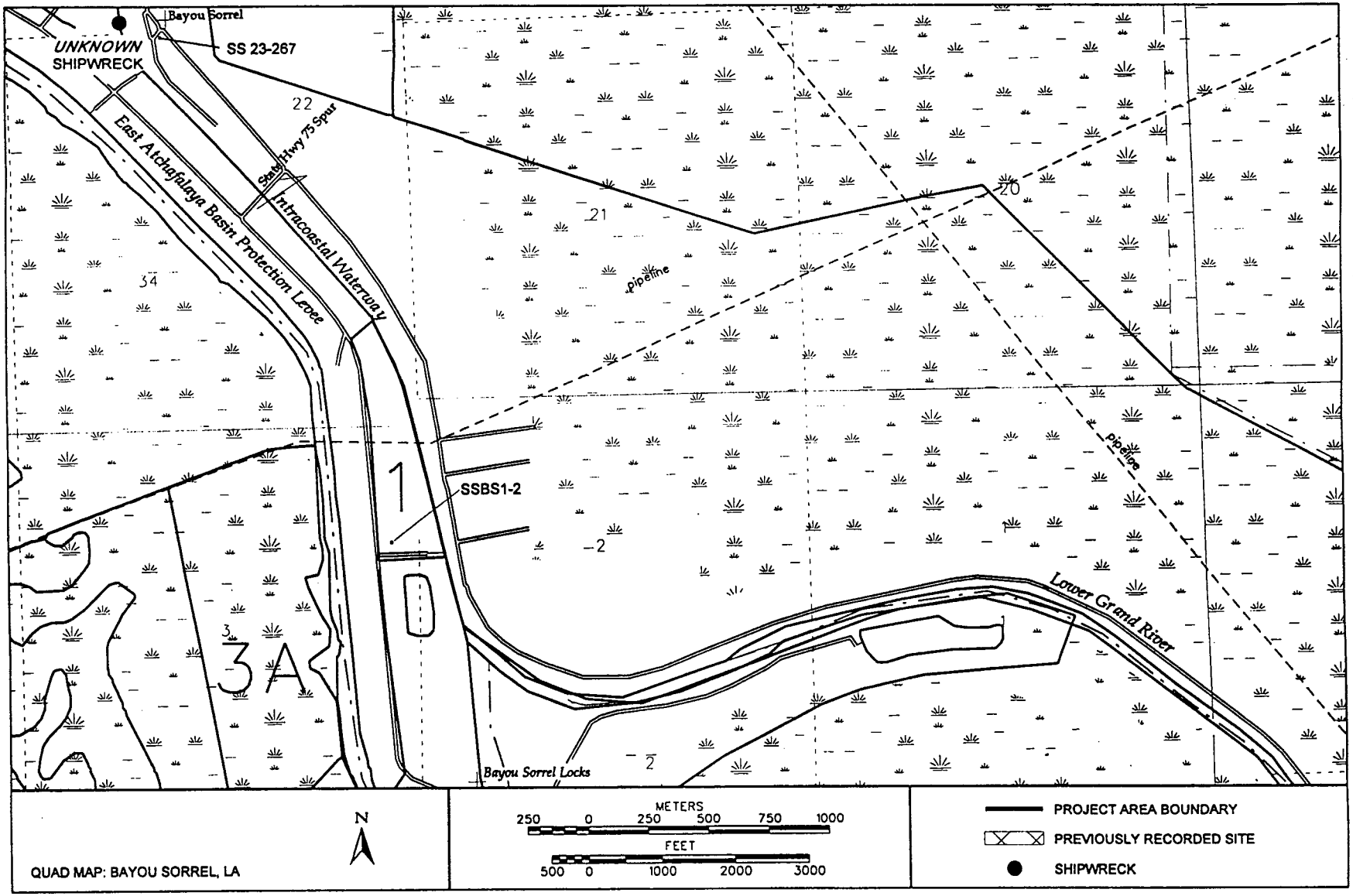
Outbuildings

1 - single crib barn
2 - double crib barn
3 - transverse-crib barn
4 - storage/misc. shed
5 - smoke house
6 - spring/well house
7 - corn crib
8 - coop
9 - quarters
10 - garconnier
11 - pigeonnier
12 - kitchen
13 - office
14 - machine shed
15 - garage
16 - privey
17 - stable
18 - other

#1	#2	#3	#4	#5	#6
type: N/A	type:	type:	type:	type:	type:
date: e / c	date: e / c	date: e / c	date: e / c	date: e / c	date: e / c
comment:	comment:	comment:	comment:	comment:	comment:

Site Plan




Bayou Sorrel
UNKNOWN
SHIPWRECK
SS 23-267
22
State Hwy 75 Spur
East Atchafalaya Basin Protection Levee
Intracoastal Waterway
21
20
34
pipeline
pipeline
1
SSBS1-2
2
3
3A
Lower Grand River
Bayou Sorrel Locks
N
QUAD MAP: BAYOU SORREL, LA
METERS
250 0 250 500 750 1000
FEET
500 0 1000 2000 3000
PROJECT AREA BOUNDARY
PREVIOUSLY RECORDED SITE
SHIPWRECK

Louisiana Historic Resource Inventory

Louisiana Division of Historic Preservation
Office of Cultural Development
Department of Culture, Recreation and Tourism

Resource ID Number: [ ][ ]-[ ][ ][ ][ ][ ]-[ ]
parish # resource #

☐ Addendum Attached

Location and Geographic Information

Name of Property: Unknown

Address: 34105 B East Ave **Parish:** Iberville

Locality: ☐ City ☐ Community ☐ Vicinity ☒ Rural

City/Community/Vicinity of...: Bayou Sorrel, LA

Topographic Quad: Bayou Sorrel, LA 1992 **Quad Size:** ☒ 7.5 ☐ 15

UTM: [15] zone – [661230] easting – [3335445] northing R11E range T11S township 2 section

Owner Name: Unknown

Owner Address: _____ **Tax Parcel:** Unknown

Property Information

Type: ☐ Site ☐ Structure ☒ Building ☐ Object

Level of Recognition: ☐ NHL ☐ NR individual ☐ NR district/element ☐ DOE ☐ Local ☒ None

Previously Surveyed: ☐ Yes ☒ No **When, Located Where?:** _____

Government Preservation Activity: ☒ Section 106 ☐ Grant ☐ Tax Credit ☐ Local Ord. ☐ Other

HABS/HAER: ☐ Yes ☒ No **NR eligibility:** ☐ Potential individual ☐ Potential district ☒ Ineligible

Condition: ☐ Excellent ☐ Good ☒ Fair ☐ Poor ☐ Ruin

Remark: _____

Integrity: ☐ Unaltered ☐ Altered (Historic) ☒ Altered (Non-Historic)

Remark: _____

Threats: ☐ Abandonment ☐ Neglect ☐ Alteration ☐ Development ☒ Government Action ☐ None

Remark: Replacement Bayou Sorrel lock

Physical Description

Date of Construction: ☒ Circa 20th Cent. ☐ Exact

Moved: ☒ Yes ☐ No When? Unknown

Function and Use

"P" for Present, "H" for Historic

P domestic	___ social	___ library	___ animal facility	___ fortification
P single dwelling	___ meeting hall	___ research facility	___ fishing facility	___ military facility
___ secondary structure	___ clubhouse	___ religion	___ horticultural facility	___ coast guard facility
___ servant quarter	___ civic	___ religious facility	___ irrigation facility	___ battle site
___ multiple dwelling	___ government	___ church school	___ industry	___ landscape
___ hotel	___ capitol	___ recreation/culture	___ manufacturing	___ park
___ institutional housing	___ city hall	___ theater	___ extractive facility	___ plaza
___ camp	___ correctional facility	___ auditorium	___ waterworks	___ garden
___ commerce/trade	___ fire station	___ museum	___ communication facility	___ transportation
___ business	___ government office	___ sports facility	___ processing site	___ rail-related
___ professional	___ custom house	___ outdoor recreation	___ energy production	___ air-related
___ organizational	___ post office	___ fair	___ health care	___ water-related
___ financial institution	___ public works	___ monument/marker	___ hospital	___ road-related
___ specialty store	___ courthouse	___ work of art	___ clinic	___ pedestrian-related
___ department store	___ education	___ agriculture/subsistence	___ sanitarium	___ unknown
___ restaurant	___ school	___ processing	___ medical office	___ vacant
___ warehouse	___ college	___ storage	___ resort	___ other_____
			___ defense	_____
			___ arms storage	_____

Form and Dimensions

___ single pen	___ central-hall	___ hall-parlor I-house	___ skyscraper	___ H ___ L
___ shotgun	___ gable-ell	___ Creole house	___ commercial row bldg.	___ U ___ cruciform
___ double-shotgun	___ bungalow	___ central hall, 2 pile house	___ freestanding commercial	___ T ___ T
___ camelback	___ pyramidal cottage	___ Queen Anne house	___ single-crib barn	
___ double pen	___ Queen Anne cottage	___ four square	___ transverse-crib barn	☒ symetrical ___ vertical
___ hall-parlor	___ central-hall, 2 pile cottage	___ minimal tradition cottage	☒ other	___ asymetrical ___ horizontal
___ saddlebag	___ bluffland cottage	___ split level		
___ creole cottage	___ central-hall I-house	___ ranch		
___ dog trot	___ double-pen I-house	___ row house		
		___ warehouse		
		___ depot		

Height: ☒1 ___1.5 ___2 ___2.5 ___3 ___4 ___5-10 ___10-20 ___20+

Width: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Depth: ___1 ___1.5 ___2 ___2.5 ___3 ___3+

Style

☐ High Style ☐ Elements of... ☒ No Style

___ Creole/ French Colonial	___ Exotic Revival	___ Eastlake/Stick	___ Colonial Revival	___ Prairie	___ International
___ Federal	___ Victorian Gothic	___ Shingle Style	___ Classical Revival	___ Commercial Style	___ Other_____
___ Greek Revival	___ Italianate	___ Romanesque	___ Tudor Revival	___ Chicago	_____
___ Gothic Revival	___ Second Empire	___ Renaissance	___ Late Gothic Revival	___ Skyscraper	_____
___ Italian Villa	___ Queen Anne	___ Beaux Arts	___ Mission	___ Craftsman	_____
			___ Italian Renaissance	___ Moderne	_____
			___ French Renaissance	___ Art Deco	_____

Foundation

___ post in ground	___ sill on ground	☒ concrete block pier	___ continuous stone	___ unknown
	___ wooden pier	___ concrete pylon pier	___ continuous concrete block	
	___ brick pier	___ continuous brick	___ concrete slab	

___ w/stone infill
___ w/ brick infill
___ w/ concrete block infill

Construction

___ post in ground	___ log (note notch)	☒ balloon frame	___ load bearing concrete block	___ w/ bousillage infill
___ post on sill	___ hewn log	___ unknown wood frame	___ reinforced concrete	___ w/ brick infill
	___ french timber frame	___ load bearing brick	___ steel frame/curtain wall	___ w/ stone infill
	___ eastern brace frame	___ load bearing stone	___ unknown construction	

Exterior Materials

___ log (note dressing)	☒ vertical board	___ stone (note dressing)	___ terra cotta	☒ asphalt
___ clapboard/weatherboard	___ board and batten	___ concrete block	___ glazed brick/tile/block	___ reconstituted wood siding
___ drop/novelty siding	___ wood shingle	___ decorative concrete block	___ sheet metal	___ permastone
___ flush horizontal board	___ exposed bousillage	___ poured concrete wall	___ enamelled steel	___ other (see narrative)
	___ stucco	___ pigmented glass	___ asbestos	___ unknown
	___ brick (note bond)	___ glass block	___ aluminum/vinyl siding	

Roof

☒ front gable	___ parapet gable	___ gambrel	___ pyramidal	___ conical	___ unknown
___ side gable	___ stepped gable	___ hip	___ mansard	___ flat	
	___ clipped gable	___ double pitch hip	___ complex	___ shed	
	___ cross gable	___ gable on hip	___ round	___ other (see narrative)	

___ low pitch
☒ moderate pitch
___ steep pitch
___ w/ parapet wall

Roof Materials

☒ asphalt shingle	___ asbestos	___ built up
___ wood shingle	___ metal	___ other
___ slate	___ ceramic/terra cotta tile	___ unknown

Chimney(s)

___ gable end exterior	___ ridge center	___ lateral exterior
___ gable end interior/flush	___ ridge off-center	___ removed
	___ slope center	___ other
	___ slope off center	___ unknown

Windows

__ batten
__ fixed single
__ fixed divided
__ single-hung
X double-hung
__ triple-hung
__ bay
__ oriel
__ Palladian
__ casement
__ sliding
__ replacement
__ unknown
__ other

__ 1 / 1
__ 2 / 2
__ 4 / 4
X 6 / 6
__ 9 / 9
__ 12 / 12
__ 2 / 1
__ 3 / 1
__ 4 / 1
__ 6 / 1
__ 9 / 1
__ 12 / 1
__ 9 / 6
__ multi-
__
__
__ stained
__ diamond
__ unknown
__ other

Doors/Surrounds

____ number
__ batten
__ french
__ panel
__ flush
__ glazed
__ partially glazed
__ fanlight
__ sidelights
__ transom
__ screened
__ replacement
X unknown
__ Federal
__ Greek Revival
__ Queen Anne
__ other

Porch

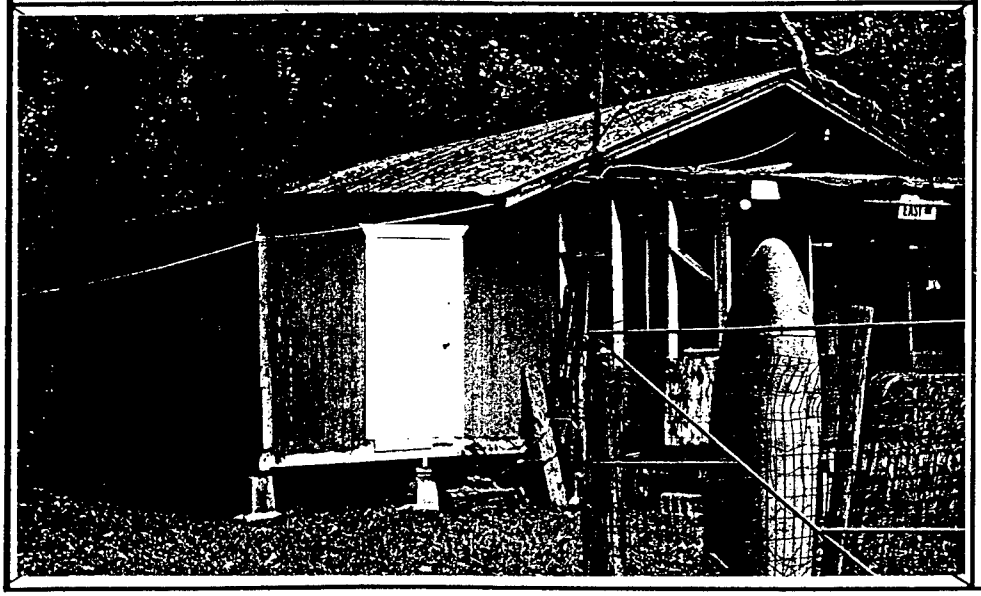
__ stoop
__ verandah
__ gallery
__ portico
__ balcony
__ loggia
__ porte-cochere
X full width
__ partial width
X attached
__ integrated
__ wrap
__ peripteral
__ screened
__ enclosed
__ unknown
__ other

Secondary

__ stoop
__ verandah
__ gallery
__ portico
__ balcony
__ loggia
__ porte-cochere
X full width
__ partial width
X attached
__ integrated
__ wrap
__ peripteral
__ screened
X enclosed
__ unknown
__ other

Additions and Alterations

date	description	impact
_____	Enclosed addition on western side, flat roof & vertical board siding	(I) M S
_____		I M S
_____		I M S
_____		I M S
_____		I M S



Context

__ Plantation Agriculture (1750-1945)
__ Creole Architecture (1750 - 1900)
__ Upland South Culture (1820 -1945)
__ New Orleans as Seaport (1718 -1945)
__ Transportation Systems (1812 -1845)
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Significance

__ agriculture
X architecture
__ archeology
__ art
__ commerce
__ communications
__ community planning and development
__ conservation
__ economics
__ education
__ engineering
__ entertainment/recreation
__ ethnic heritage
__ exploration/settlement
__ health/medicine
__ industry
__ invention
__ landscape architecture
__ law
__ literature
__ maritime history
__ military
__ performing arts
__ philosophy
__ politics/government
__ religion
__ science
__ social history
__ transportation

Narrative

Standing Structure (BS1-4) was identified during Phase I Cultural resources survey of the proposed US Corps of Engineers replacement of the Bayou Sorrel Lock. It represent a typical vernacular structure found in Rural Louisiana. The building rectangular in form w/ several structural additions including enclosed space with vertical board siding and an open porch. The building's exterior walls have asphalt shingle as does the roof. The owners confirm the structure has been moved to present location, however no date was given.

The structure possesses no known historical significance and is not architectually unique. Standing Structure (BS1-4) does not possess the qualities of significance as defined by NRHP. No additional architectual recorelation of the building is recommended.

History

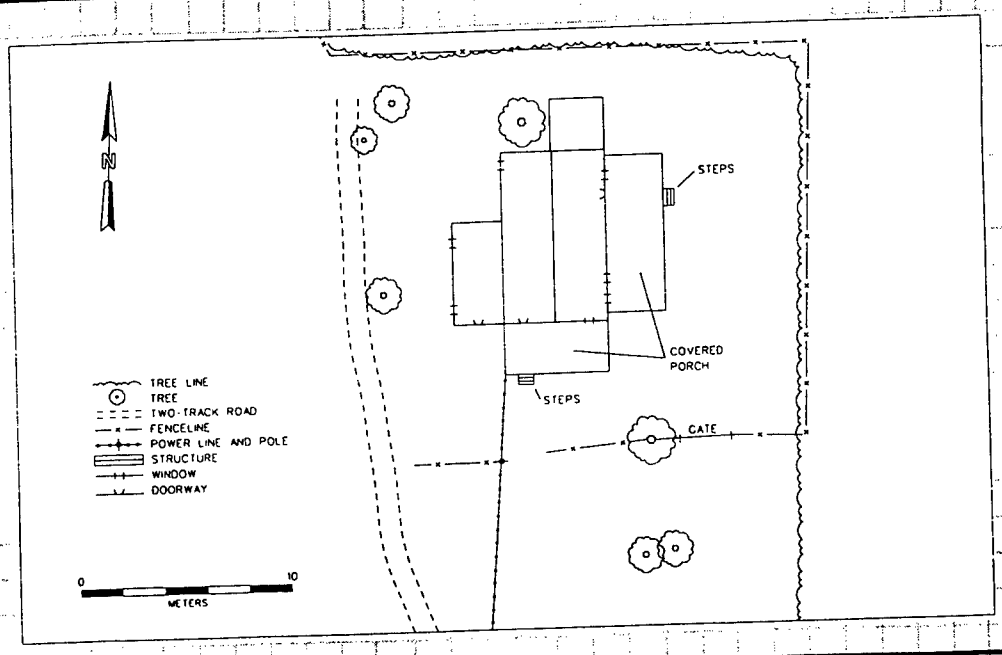
Sources

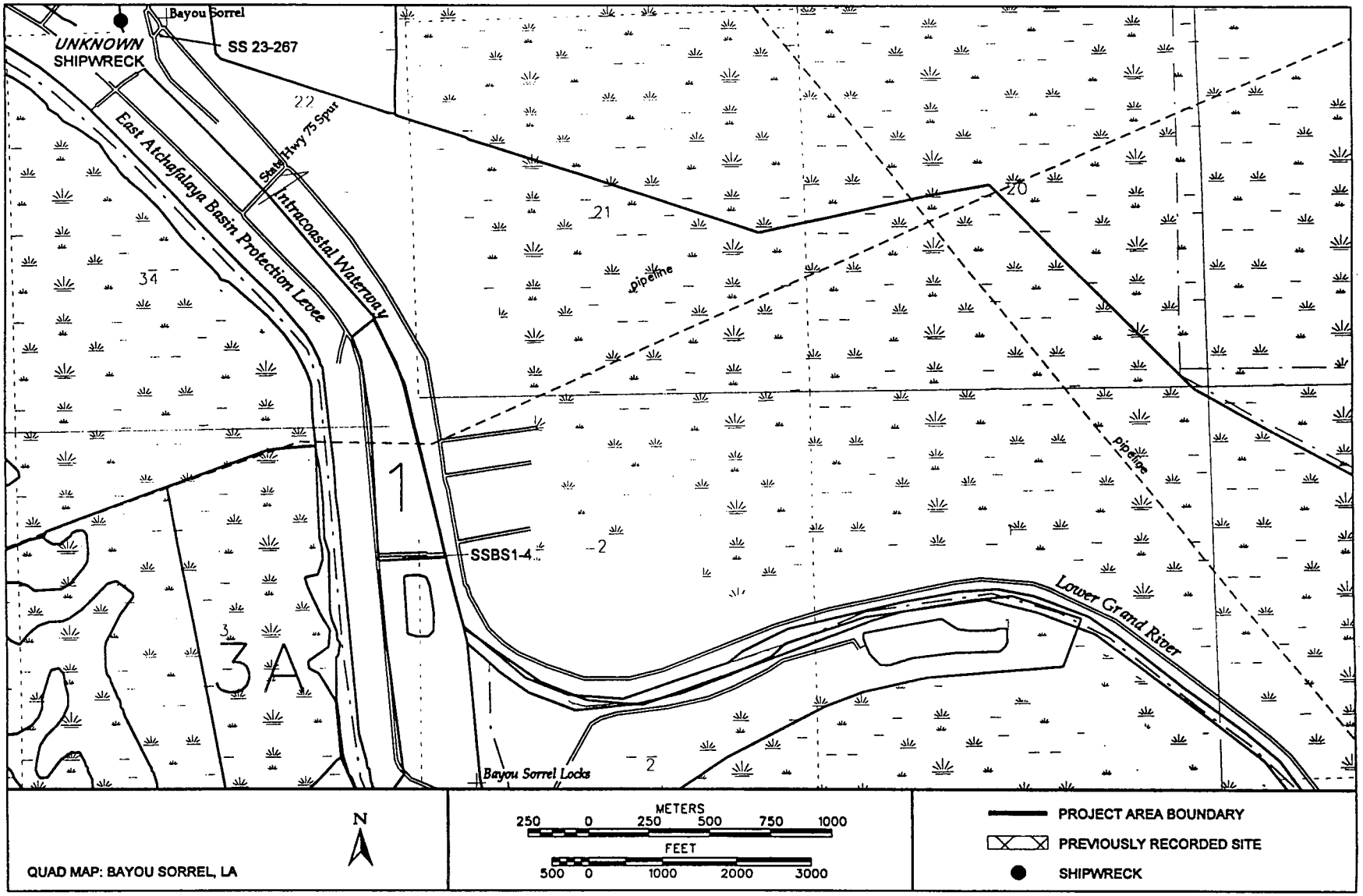
Outbuildings

1 - single crib barn
2 - double crib barn
3 - transverse-crib barn
4 - storage/misc. shed
5 - smoke house
6 - spring/well house
7 - corn crib
8 - coop
9 - quarters
10 -garcconier
11 -pigeonnier
12 - kitchen
13 - office
14 - machine shed
15 - garage
16 - privey
17 - stable
18 - other

#1	#2	#3	#4	#5	#6
type: N/A	type:	type:	type:	type:	type:
date: e / c	date: e / c	date: e / c	date: e / c	date: e / c	date: e / c
comment:	comment:	comment:	comment:	comment:	comment:

Site Plan




Bayou Sorrel
UNKNOWN SHIPWRECK
SS 23-267
22
State Hwy 75 Spur
East Atchafalaya Basin Protection Levee
Intracoastal Waterway
21
20
34
pipeline
pipeline
1
SSBS1-4
2
Lower Grand River
3
3A
Bayou Sorrel Locks
QUAD MAP: BAYOU SORREL, LA
N
METERS
250 0 250 500 750 1000
FEET
500 0 1000 2000 3000
PROJECT AREA BOUNDARY
PREVIOUSLY RECORDED SITE
SHIPWRECK